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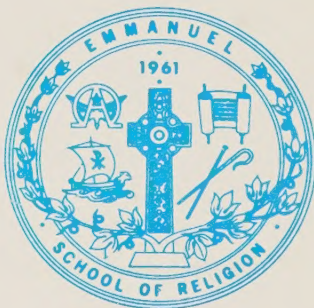
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THE ORIGIN OF MAN

OR

Evolution or Revolution—Which?

BY

G. W. POOL, Ph.B.



FROM THE PRESS OF
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Author's Preface.



THERE have been so many works written on evolution that the publication of another book on that subject demands an explanation. The circumstances that called forth this volume are these: The writer some ten years ago had gathered his materials together to begin the writing of a book on an entirely different subject, when the question of the method of treatment presented itself. If evolution were true, the manner of treatment must be in harmony with this hypothesis; but, if special creation were true, it must be made to conform to this theory. It was useless for the writer to proceed with the work until he had settled in his own mind which theory was a probable truth. Prior to this time he had made no thorough study of the evidence adduced to support these theories, but from that time to the present hour, he has given every spare moment to the investigation of the claims of these theories.

This investigation was made to satisfy the writer's own mind, and with no intention whatever of writing a book on the subject. But having presented some of the results of the investigation in the form of lectures, some of those who heard the lectures, in whose judgment the writer had confidence, thought that they were worthy of

a wider circulation and should be given a more permanent form. But these views would not have been presented to the public even then, had not the writer been impressed with the fact that what had been written in defense of special creation was largely of a negative character, while it seemed to him that there was abundance of positive scientific evidence that tended to establish this theory. And the writer was convinced also that the faith of many was being unsettled by the revolutionary changes that have been taking place in this age of transition, resulting from the disturbing influence of the evolutionary philosophy.

The hypothesis of evolution has been accepted as fully demonstrated, and the doctrines of the Christian religion are being reconstructed and made to conform to the teachings of this new philosophy. Far-reaching changes, consequently, have taken place in the religious beliefs that have been held formerly as truths that could not be shaken. Evolution has been accepted as a proved result of science, and criticism based on its deductions tend to undermine the faith of many in a divine revelation. The danger is not that this criticism will destroy the Bible for it will stand as impregnable as Gibraltar when the critics are dead and forgotten and their criticism has power only to provoke a smile. But the faith of many in the Bible is being destroyed, and this is a serious matter. It seems to the writer that there has been an undue haste among religious teachers to adjust the beliefs that have long been held as established in order to harmonize them with the doctrines of evolution. If the hypothesis is fully established, of course, the only thing to do is to harmonize the

teachings of the Scriptures with the theory, or abandon the Bible and Christianity altogether.

The writer began his investigations fully expecting to find that the scientific evidence would be overwhelming in favor of the theory of evolution, and contrary to his expectations found abundant evidence to confirm his belief in the theory of special creation. He began the study of the subject with the determination to accept the theory that had the preponderance of evidence in its favor, supposing from the confident assertions of popular writers that this would be the hypothesis of evolution; but he emerged from his investigations with his belief in the theory of special creation firmly established as a rational and scientific hypothesis.

This book has not been written for men of science, but for intelligent, thinking laymen, who do not have time to investigate such questions for themselves, but who are vitally interested in the results of the investigation, and for this reason all technical terms, as far as possible, have been avoided. There is no claim made to literary excellence. The attempt has been made to give a clear and concise statement of the essential facts of these theories upon which the reader might be able to base a judgment. It has seemed more important to set forth the thought clearly and give a correct theory, than to sacrifice these for mere literary embellishments.

The writer makes no claim to originality except in the interpretation of the facts demonstrated by science and in the method of treatment. There is abundant literature on the subject, and this has been made use of in the investigation. In fact, the materials for the work

have been gathered largely from the writings of evolutionists themselves. The facts discovered by evolutionists have been made use of, but their interpretations of these facts have not been accepted. Wherever the doctrines of evolutionists have been set forth, the language of these writers has been closely followed.

In a book involving the reading of such a large number of works, it is difficult to make adequate acknowledgment of one's indebtedness. The writer acknowledges his indebtedness to the philosophical writings of Professor Borden P. Bowne in the preparation of the introduction. And, besides the regular text-books on Geology, he is indebted to the works of the distinguished geologists, M. Joachin Barrande, Dr. Alexander Winchell, but chiefly to Sir J. William Dawson. And where he is indebted to other writers, or where there has been thought transference, particular acknowledgment has been made in the footnotes.

The reader is granted the same privilege in perusing these pages that the writer has claimed for himself in reading the works of others. He asks nothing more than that the line of thought be followed to the end, and that the reader then draw such a conclusion as in his judgment seems to be a probable truth.

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INTRODUCTION

9

"The men who in field and laboratory are working out the facts, do not speculate at all. Content with slowly building up the sum of actual knowledge in some neglected and restricted province, they are too absorbed to notice even what the workers in the other provinces are about. Thus it happens that while there are many scientific men, there are few scientific thinkers. The complaint is often made that science speculates too much. It is quite the other way. One has only to read the average book of science in almost any department to wonder at the wealth of knowledge, the brilliancy of observation, and the barrenness of idea. On the other hand, though scientific experts will not think themselves, there is always a multitude of onlookers waiting to do it for them. Among these what strikes one is the ignorance of fact and the audacity of the idea. The moment any great half-truth in Nature is unearthed, these unqualified practitioners leap to a generalization; and the observers meantime, on the track of the other half, are too busy or too oblivious to refute their heresies. Hence, long after its foundations are undermined, a brilliant generalization will retain its hold upon the popular mind; and before the complementary, the qualifying, or the neutralizing facts can be supplied, the mischief is done."—*Drummond*.

INTRODUCTION.

UPON the highest pinnacle of the earth's life, stands man, the crown jewel of the universe. He stands without a rival at the head of the ascending scale of life on the earth. Man is the suprême product, the crowning glory of the creative process. He is a self-conscious being, possessing sensibility, the power of free volition, the ability to think, the capacity to know, the faculty of reason, together with a high moral and spiritual nature.

Whence came this ponderous sphere which man inhabits? And whence came the man that dwells upon it? Man is, in some way he came to be, but how did he originate? This is a question of paramount importance to every member of the race. And man in his eager quest after knowledge has sought long and diligently to discover the source of his origin. He has been tireless in his efforts to solve the mystery that surrounds his advent in the world. He has penetrated the earth beneath him, and has soared into the heavens above him, that he might learn the secret of his origin. The question as to how the human race came upon the earth is one that can not be banished from the mind, and must be given a careful consideration until a satisfactory answer is obtained.

Man has either always inhabited the earth, or he has taken up his abode here at some definite time in the world's history. But it is an impossibility for the race to have always dwelt upon the earth, for reason demands a beginning. That which is eternal must of necessity be self-existent, but that which is temporal must have been caused to exist,

hence, must have had a beginning. An unending mutation marks the history of the human race. Man stands, as it were, on the brink of an illimitable sea, that never restores again anything that falls into its waters. We hear only the moan of the relentless waves that beat upon its shores. The lands we occupy were once the dwelling place of other peoples, who lived, and wrought, and passed away. There is a limit to life beyond which we can not pass. Decay and death are inevitable. What has taken place with the generations of the past is prophetic of our own history. Man is not self-existent, therefore he can not have always inhabited the earth.

It is impossible for us to conceive of the material universe with its numerous forms of life, in the light of the present state of knowledge, as having always existed. The science of Geology has demonstrated a beginning for the earth, the species, and man. The geologist traces the history of the planet on which we dwell through its various geological stages until he comes to a time when the globe was in a molten condition, and, then, still further back when it was in a gaseous state. Life was an impossibility in these early periods, for such was the condition of the earth in the gaseous and molten state that no living matter could have existed upon it. Life being an impossibility in these earlier epochs, it must have originated at a later age, when the earth had reached a condition in its development that it could sustain life. Every existing species can be traced back to a time in the history of the earth, when it had no existence. Geology demonstrates a beginning for man, therefore he must have been caused to exist.

What reason demands and geology demonstrates, revelation proclaims. "In the beginning God created the heaven and the earth." "These are the generations of the heavens and the earth when they were created, in the day that the

Lord God made the earth and the heavens." "In six days the Lord made heaven and earth, the sea, and all that in them is."

Reason demands a beginning, but it does not trace the earth back in its history to the real cause of this beginning. What the cause of the beginning was, is left as a matter of conjecture. And the fact that geology traces the globe back to a beginning in a primitive incandescent vapor, does not explain the ultimate cause of the present order. The beginning reaches back from the origin of the earth into the limitless depths of eternity. But what was back of the beginning, without beginning, self-existent, and eternal? What is the ultimate cause of all things? What is the source of man's origin? Revelation does not merely proclaim a beginning, but also the cause of the beginning that reason so imperatively demands, and that geology so fully demonstrates. The question of man's origin, however, can not be settled by proclamation alone. The facts relating to his origin must be established by proofs that will meet the requirements of reason and satisfy the moral sense.

There are two current theories that undertake to account for the origin of man. One is that of special creation, which teaches that man had an independent origin, having been created by Almighty God in his own likeness from the dust of the ground. The other theory is that of evolution, which holds that man had a common origin with the lower animals, having been gradually evolved from the lowest forms through countless ages by means of resident forces, until he reached his present position at the head of life; and this theory denies most emphatically that man had an independent origin.

If the theory of special creation is true, man had a beginning, having been spoken into existence at a definite time by divine fiat. If the theory of evolution is true, he had a

beginning, for he is traced back in the process of his development to a time when the earth was in such a condition that life could not exist upon it. Both of these theories are agreed, therefore, that, not long ago, comparatively speaking, the earth was, but man did not inhabit it. The question for our consideration is, How did man come upon the earth? Was man a supernatural creation, or was he developed by the more gradual process of evolution? Man exists, was he spoken into being by divine fiat, or was he evolved from simpler and lower forms of life? Is the explanation of life to be found in the traditions of the past, or must it be sought in the philosophy of the present?

The existence of the universe and the species must be accounted for in some way. Did man originate as an event or a process? In either case, what was back of the event or process? We desire to know, not only how man originated, but to know the cause of his origin as well. Grant the existence of an omnipotent, omniscient, and omnipresent God, and either hypothesis may be true. Man could have been spoken into existence in the full possession of all his powers, in a moment of time, by a single word from the Almighty. He could have been, on the other hand, the product of minute changes by transmutation from lower types of life, consuming untold ages in bringing him to his present high state of development. We can not limit the Almighty in the method which he might choose to employ in the production of man. If man originated by special creation, then, it follows that this was the method employed in his production. But, on the other hand, if he originated by the slower processes of evolution, this was the method employed in producing him. Admit the existence of a Supreme Being, and it must be conceded that he has equal power to make separate creations, or to establish certain laws of nature, and leave them to operate through secondary

causes in the production of the human race. There is no doubt whatever that God could have employed either of these methods in producing man. And no one can dispute the soundness of this reasoning.

All evolutionists are agreed on the method of origin, whatever their beliefs may be as to other things. But the theistic evolutionists and the materialistic evolutionists disagree on the real question at issue, that is, the cause of man's origin. The one sees in the processes of evolution evidence of a divine mind, while the other sees in these processes nothing but the operations of the laws of nature. The theistic evolutionist and the atheistic evolutionist agree as to the facts which relate to man's production, but they differ in their interpretation of these facts. The theistic evolutionist sees back of the process of evolution a divine cause; the atheistic evolutionist sees nothing in the process of evolution to lead him to believe that there is any higher cause than nature itself. Nature is self-sufficient, and there are no causes except material causes. The doctrine, as it is held by materialists, maintains material causation against supernatural causation; and contends for continuity and uniformity of process in nature against break and intervention. But the theory of evolution, as held by thoroughgoing evolutionists, who have carried it to its logical conclusion, excludes the possibility of a creation by supernatural power, by any method, however gradual its process of operation.

The hypothesis of evolution, when carried to its logical conclusion by its ablest and most distinguished advocates, is diametrically opposed to the theory of special creation as it is held by the consistent religionist. The one, makes man the offspring of God by creative act; while the other, makes him the product of nature through the operation of fixed laws. There is a well-defined issue between the two theories

that demands careful consideration from all thoughtful persons. And any attempt to evade the issue should not be countenanced for a single moment. The acceptance of the theory of evolution requires not merely a change of opinion as to the method of origin, but a change of one's whole view of the world and life. The leading evolutionists hold that their theory accounts for the universe, the species, and life itself, without the necessity of divine intervention. The theory of evolution is sufficient in itself to account for all things that exist. There is no need whatever for a divine First Cause. We must accept their interpretation of the theory, and evolution must be met squarely as it has been set forth by its ablest and most distinguished advocates. It does not meet the exigencies of the case to say that evolution was God's method of introducing man into the world. The real issue between the two theories must not be evaded by compromise. There is not the slightest evidence to show that material causation in any way secures order and progress. And supernatural causation is by no means inconsistent with uniformity and progress by slow degrees of advance. From the bare notion of material causation, we can infer nothing as to the mode of its manifestation; nor from the bare notion of supernatural causation can we infer anything as to the method of its operation. This, therefore, is not a mere question of method, but it is primarily a question of cause. It is the question whether man originated by an act of special creation, or by the process of evolution. It is an unequivocal question of origin. It is not a question of how man might have originated, or how he ought to have originated, or how he could have originated. But it is a plain question of fact, How did he originate?

The question, however, that seems to be under discussion at the present time, is not whether the theory of evolution is

true, but in what form it shall be finally accepted. It is taken for granted by most of the popular writers on this subject that the theory is true; and that the only thing that remains to be settled is whether it shall finally be received in its theistic form, or in its atheistic form. It may be thought by some that the discussion has passed entirely beyond the question as to the truth of the theory. But the question, as we regard it, is not in what form it shall be finally accepted, but whether it shall be accepted in any form whatever. It is not what form of the theory is true, but is it true at all? Is it necessary for us to accept the theory in any form, either in its theistic or atheistic form? This is a question that can not be settled by mere authority. The origin of man can not be settled *ex cathedra* either by religionists or by evolutionists.

Those who accept the Bible as a divine revelation may contend that the Mosaic account of creation should be accepted without question. But this account of creation can not be accepted in this way, for there has been formulated a plausible theory which claims to account for the origin of the inorganic and organic world without divine intervention. Great weight has been given to this hypothesis from the fact that it has been generally accepted by men of science. The truth of the theory of special creation has been called into question. For this reason, no matter how irreverent this may appear to the devout religionist, the theory must be put to the test. And if special creation can not stand the tests that are applied to similar hypotheses it must be abandoned. The sincere religionist regards Moses as the mere instrument through whom God revealed the eternal truths of creation; and because he spoke by divine inspiration, the religionist thinks that the revelation must be accepted without question. But the Mosaic record of

creation must be treated precisely like any other hypothesis that undertakes to account for the universe.

The sincere inquirer after truth must refuse to accept dogmas on the authority of any one, whether they be the dogmas of scientists or of religionists. We have advanced beyond the age when we will accept anything on mere authority. In this age of enlightenment no one believes anything because it was formerly regarded as true. The question that is now asked is whether it is reasonable. There was a time when men were compelled to assent to a proposition held by the Church and believed to be taught in the Scriptures; but fortunately for the interest of truth, that day has long since passed away. But the truth is endangered at the present time by a new source of authority. Scientists have seemingly usurped the authority that was once exercised by theologians. Such is the vital importance and the far-reaching results of the teachings of evolution that it can not be accepted on mere authority, however able it may be, and worthy of our respect. We can not accept a theory as true because it is taught by distinguished naturalists, or because it is currently accepted.

A person must necessarily be impressed with the learning and industry of such scientists as Darwin, Spencer, Romanes, Huxley, Tyndall, Haeckel, and other scientists of equal note. These men possessed transcendent gifts as observers of the phenomena of nature. They gathered together a vast amount of data in their chosen fields of research. The industry and acumen of these men, as revealed in their extensive writings, is remarkable indeed. But every hypothesis must be tested apart from the intellectual standing, the reputation for scholarship, or the religious belief of its advocates. It is no proof of the truth of a given theory to be able to quote distinguished men's names who have held it, and to be able to point out the fact that great scholars

have taught it. It is not infrequently the case that the greatest scientists and the ablest scholars are deficient in reasoning powers. Tyndall says himself: "Men of science, when pursuing a line of investigation to prove a favorite theory, once admitting their principles are a logical necessity, assume absurd conclusions." There are many men of such peculiar type of mind that when dealing with abundant and complex data, they substitute their logical deductions for scientific facts. It is doubtful whether any other hypothesis has been more unfortunate in this respect than that of evolution. The evolutionary philosophy is a series of logical and metaphysical deductions from established scientific facts, and its advocates demand that their deductions be received with the same authority as the facts of science on which they are based.

The men who have advocated the theory of evolution have been eminently fitted for their work as observers of nature and collectors of data. But they were not content to be mere observers of natural phenomena and collectors of data related to these phenomena. They entered the field of speculative philosophy, and began to draw their deductions from these data which they had so industriously gathered, and here they revealed themselves to be deficient in reasoning powers. Logic deals only with the inferences from premises, while reason seeks to ascertain the truth of the premises themselves. If there is an error existing in the premises, the rigidity of the logic only tends to intensify the error. There is such a thing as being logical in the statement of the facts, and illogical in the conclusions drawn from the facts stated. Not infrequently false conclusions have been logically deduced from true premises, hence it does not always follow that true premises are sufficient to justify the acceptance of the conclusions that are logically drawn from them. Evolutionists in this way have often be-

come the victims of their own logic. Their conclusions reveal the tyranny to which the mind is subjected whenever philosophical deductions from established facts are invested with the same authority as the scientific facts from which they are deduced. And for this reason, whenever the conclusion is irrational and contrary to the moral sense, it must be rejected, no matter how true the premises may be, or how logical the process of deduction. The fundamental error of evolutionists is in attaching the same importance to mere philosophical deductions that they do to demonstrated scientific truths.

We accept the results of the labors of scientific experts in their chosen fields of research without question. This becomes necessary because laymen can not always test these matters for themselves without a great outlay of time and means in study and investigation. The evidence of science can not all be presented to the laity in relation to any given fact, for this would require little less than the presentation of the whole of that particular branch of science to which this fact is related. For this reason the people are forced to accept the results of scientific research. The majority of the people, perhaps, do not fully comprehend the astronomical evidence upon which the predictions of the eclipse of the sun are made. But notwithstanding their lack of knowledge as to just how these predictions are made with such accuracy, they accept them as demonstrated by science, and never doubt for a moment that an eclipse will occur at a given time.

What science has demonstrated must be received without question, but what is a mere matter of speculation we are under no obligations to accept. The doctrine of evolution has been received by many because they have been led to believe that it has been demonstrated by science, and, as a matter of course, the discoveries of science must be ac-

cepted as true. Evolution has been heralded as a universal law. And the conception of evolution as an efficient cause has been carried into every field of human knowledge. It is high time that a halt be called. For already there have been too many concessions made to the evolutionary philosophy. It is unscientific and irrational to contend that conclusions are certain which have not been demonstrated and are not demonstrable.

There are two distinct questions involved in the theory of evolution—a scientific question, and a philosophical question. In so far as evolution deals with the phenomena of nature, it is scientific, but so far as it deals with the deductions from these phenomena, it is philosophical. Science, properly speaking, does not have anything to do with the origin of the earth and life, for it does not deal with origins. Science can not go back to origins, for this is beyond its legitimate sphere. It deals with the laws and modes that relate to phenomena, and must of necessity start with certain axioms of unknown origin. Science conducts us to ultimate facts, and discovers laws for which it can give no explanation. The distinction must be clearly defined between what is scientific in the theory of evolution and what is merely speculative. Science deals altogether in natural phenomena, and points out the laws of development as observed in nature. It furnishes the data for philosophical speculation, but science itself does not speculate. Science fails to point out the origin of anything, for it only undertakes to show the process through which things pass after they have come into existence. The realm of science is secondary causes and processes. When we pass beyond process and phenomena, we immediately get beyond the legitimate dominion of science. The nature of cause is the problem of philosophy. Where science ends, philosophy begins. The origin of life is not a question of science, but a

problem of philosophy, Evolution is largely a system of metaphysical philosophy, rather than a system of science. The hypothesis is deductive, and not inductive. Its conclusions are the result of philosophical speculations, and not of scientific observations. Evolution may be a description of the order of phenomenal development, or it may be a philosophical theory of the causes that underlie this development. These two distinct conceptions are seldom made by evolutionists. They seem to be unable to grasp the distinction between nature as an observed order, and nature as a system of causation.

There is confusion in the minds of evolutionists which is revealed in all their writings by the double significance they give to the term evolution. The word is employed indiscriminately to explain both the cause and the development, which renders the use of the term misleading and deceptive. As it is used on one page it means a process of development, and as it is employed on the next it means the cause of the development. And they reason that because there is a process of development in nature, that the evolution is the cause of the development. Evolutionists fail to discriminate between what is scientific and what is philosophical in their theory, seemingly having no suspicion that both are not identically the same. Scientific facts and philosophical speculations, inductive and deductive problems, are intermingled in hopeless confusion. Evolution, in the scientific sense, carries with it no theory of origins, for the question of process is forever distinct from the question of cause. But evolution is made to include processes both modal and causal. The first implies development under adequate causes. The second assumes itself to be a cause, which, in the very nature of things, it can not be.

You are led to believe that the men who accept the hypothesis of evolution are sincere in what they have claimed

for their theory; but that in their constant study and investigation of the subject they have, imperceptively to themselves, passed from the firm ground of scientific observation to the unstable ground of philosophical speculation. In their eagerness to establish their theory they have rushed to unwarranted conclusions, and have offered for the truth, often that which they hoped was true. The wish has been father to the thought, and they have proclaimed as true much for which they have had no positive proof. And for this reason it will soon be necessary to reconstruct the entire evolutionary philosophy in order to bring it into harmony with demonstrated truth.

The Christian scholar has often been held up to ridicule for rejecting the teachings of scientists. And much capital has been made out of the supposed conflict between religion and science to the detriment of the cause of religion. But the men of science are as much to blame for this supposed conflict as the teachers of religion. When a trained theologian reads the works of men who claim to be scientists, and finds that they make no distinction between the observed facts of nature and their deductions from these facts, both being put forth as the results of science and of equal authority, is it strange that he should refuse to receive not only their speculations, but, sometimes, even the facts on which they are based? When he sees that they are seeking to substantiate their working theories by the aid of speculative deductions, the fallacy of which he readily recognizes, there is nothing remarkable in the fact that he rejects their speculations. But the evolutionists are as severe in their denunciations of those who refuse to accept their deductions from scientific facts as they are of those who refuse to accept the facts themselves. This is because they make no distinction between their observations and their deductions from them. And this is why the religionist is often accused of being

narrow and bigoted, when in reality he is open to conviction, but demands more convincing proofs than metaphysical speculations before he abandons his cherished beliefs.

Evolution in the sense of the simple description of an observed order in nature is a statement of process, but it is entirely silent about causation. The process of development is compatible with any kind of causation. The conception of a process of development in nature lies within the field of science, and may be proved or disproved by science. But where the doctrine transcends this limit, and claims to give a theory of the causes at work in nature, it then becomes philosophical. Evolution is neither a controlling law, nor a producing cause, but is simply a description of a phenomenal order of development. The conclusions of evolutionists are largely the result of speculation, and not of observation. They pass skillfully from induction to deduction, and seem to think that every one should accept their deductions on the same basis as their inductions. The deductions of speculators can not be received as the result of scientific observation. There should be a careful distinction made between what is the result of scientific observation, and what is the result of philosophical speculation. What is the result of the former must be received as true, but what is the result of the latter may be accepted or rejected according as it meets the demands of reason. For the phenomena of the universe we must look to science, but for the origin of the universe we must look to philosophy.

The theory of evolution has been extended from its proper limits in the development of natural phenomena into a theory of the origin of the universe, then to the origin of life, and finally to the origin of the mind itself. The origin of these phenomena is a problem for philosophy alone. On this question of origin, science, in its proper sphere, has

absolutely nothing to say. The theory of evolution has been set forth as a profoundly scientific hypothesis. While it is true that scientific experts have had much to say in the interests of evolution, yet this fact does not by any means make its philosophical deductions the result of scientific observation. It is necessary to distinguish carefully between fact and the explanation of fact in the study of this subject. Whatever men of science may teach in the way of philosophical speculations, science does not teach that evolution goes any further than its scientific evidence carries it. The extension of evolution as a science from its legitimate field in the phenomena of nature into a theory of the origin of the present order, is an act for which science furnishes no warrant whatever. Professor Tyndall says: "There ought to be a clear distinction made between science in the state of hypothesis and science in the state of fact: inasmuch as it is still in the hypothetical stage, the ban of exclusion ought to fall upon the theory of evolution." And this applies with equal force to the theory of evolution at the present time as when first spoken, for it is still in the hypothetical state. Science should be confined strictly within the limits of the observed facts, and every theory should be avoided that tends to mere speculation. What the scientist should do is to note precisely what has occurred in nature, and report accurately on this without addition or subtraction. And special care should be taken against speculating on the facts in order to substantiate any theory. There should be no substitution of a hypothesis for scientific fact. And there should be no setting forth of philosophical speculations for demonstrated science.

One of the most deplorable things in this discussion is the readiness with which scientists have accepted the hypothesis of evolution as an established fact and taught it as such, when all the claims of wisdom and candor would re-

quire it to be held as a hypothesis yet to be proved. They unfortunately abandon the position of strict scientific investigation, and become mere dogmatic enunciators. They speculate on the facts of science, and then assume these speculations to be of equal authority with the facts that have been demonstrated by science. They now assume that these speculations are scientific facts as well authenticated as the actual facts of science; and then contend that the conclusions at which they have arrived must be accepted as the results of scientific research. The scientist and careful investigator ceases just here, and the speculator and theorist begins. And unfortunately for the cause of truth, the scientist fails to recognize the fact that he has become a speculator. He imagines that he is still in the bright sunlight of scientific investigation, when he is hopelessly lost in the dense fog of philosophical speculation.

There is a process of evolution in nature. And there is no objection to the use of the term, if it is understood to mean the development of that which has already an existence. The evolution to which objection is raised is that which holds to the spontaneous development of something out of nothing. An evolution of atoms without a guiding mind into all the complex forms of nature both organic and inorganic. There is an evolution—a process of development—not a universal law, but rather a general principle. The acorn evolves into the oak. The child evolves from an embryo into a man. But the acorn contains the oak latently in all its forms and parts; and the embryo possesses in itself the possibility of all the members, powers, and faculties that reach their maturity in adulthood. Evolution takes place only where there is something existing in the germ, which by development becomes what it was already potentially. In the realm of life evolution has its place between origin and maturity, and leads from the first to the last. The evo-

lution unfolds all the fullness of life and being of which the individual plant and animal are already possessed. The possibility of the evolution is in the germ cell, a part of its inherent nature, a function of its life. The evolution is the outgrowth, the unfolding, the manifestation of the life latent in the germ. Evolution is a process of development that brings to perfection the powers that belong to the inherent nature of the individual plant or animal. There can be no evolution where there is no life. There is growth by accretion, when sediment is deposited at the bottom of the ocean, but that is not growth in the strictest sense of the word, which is by expansion from the development of the life principle. If the phenomena of growth could be identified with the accumulations of geological deposits, a strong argument could be made in favor of evolution and against special creation. But the earth, strictly speaking, does not grow by the accumulations of the deposits that are washed down from the mountains and hills, and are carried by the streams into the sea.

The advocates of evolution as a rule make no attempt to explain the origin of life. Evolutionists take for granted the universe in nebulous form and life in its simplest forms. And with these assumptions they teach that the existing earth and the various forms of life were evolved from primitive nebula and the lowest forms of life by the accumulative effects of innumerable small variations. Evolution has to do only with the process of the development, but its advocates teach in one breath that it is a process, and in the next they make it the cause of the process. The cause of the process of development must always be distinguished from the development itself. Evolution can take place only where there is something to be evolved, and something out of which to evolve it, and with adequate causes for the development. These facts are constantly overlooked by the advocates of

this hypothesis, and evolution is spoken of as if it were an efficient cause, which in the very nature of the case it can not be. There is an efficient cause—the agent that produces the change; a material cause—that out of which anything is produced; a process—the method by which anything is produced; and a product—that which is produced by the efficient cause out of the material cause by means of the process. The true cause must be sought back of the product, back of the process, back of the material cause, in the efficient cause. The efficient cause must be adequate to the effect produced, and is the explanation of both the process and the product. The material cause should not be confounded with the efficient cause, and the process should not be metamorphosed into a cause of that which is produced. There must of necessity be back of the process and above the material cause an efficient cause, which is the explanation of the process and the true cause of the product. A process can not be an effect and an efficient cause at the same time. Evolution as a process of development can not be the cause of the product. Evolution assigns no adequate cause for the development, or the uniform direction it is supposed to follow. There is something in nature that is the basis of the development, and without this to start with there can be no evolution. Given this impulse to begin with, and after that the development may be accounted for by evolution; providing sufficient energy was furnished at the beginning, or was supplied along the course of the development as needed, in order to keep up the development. If evolution is true, nature must be regarded as a huge time-piece, that was wound up once for all at the beginning, or must have been wound repeatedly in order to keep it going.

The laws of nature are not powers within themselves. These laws are merely the manner in which force is discovered to operate. What we call natural laws are nothing

more than our own generalizations. Scientists make use of figurative language, when they speak of evolution as a producing cause; for it is merely a description of a mode in which things are observed to act. The laws of nature are spoken of as if they had power within themselves to produce changes in natural phenomena. But law in itself has absolutely no power to cause to exist, or to restrain from becoming. The law of evolution is only the *modus operandi* of nature. When evolutionists talk of the universal law of evolution, as if it had power to produce change, or cause to exist, they have forsaken the province of scientific candor, and have crossed over into that of philosophical dogmatism. If we are to be given the results of speculative philosophy, that fact should be clearly set forth; but the advocates of evolution ought not to profess to be following the leadership of scholars and scientific candor, when in reality they are dealing in imagination and philosophical dogmatism.

That there is a law of evolution operating in nature we do not question for a moment. But there are other laws that are as positive factors in producing changes in nature as evolution. There are three great laws that operate in nature, and produce the changes we observe taking place in natural phenomena. These three laws are revolution, evolution, and degeneration. These are general laws of nature, and can not be regarded as really universal laws, because they limit the operations of each other. The first law we call revolution to indicate the part it plays in nature, and to distinguish it from the law of evolution. The law of revolution is observed to operate in the origin of things, the law of evolution in their development, and the law of degeneration in their destruction. Speaking now in a metaphorical sense of these laws, as if they had power in themselves to produce changes, or cause to exist, the law of revo-

lution originates, the law of evolution develops, and the law of degeneration destroys. The laws of revolution and degeneration have been largely ignored by evolutionists, and their operations have been attributed to evolution. By attributing the changes that have been brought about by the laws of revolution and degeneration to the law of evolution, it has been made to appear that there was no other important law operating in nature. And evolution has been proclaimed as the universal law of nature. Evolution is only one of the constituent factors in producing changes in nature, and is not the primary cause of the changes in natural phenomena. Evolution never produces anything of itself, it only develops that which has been brought into existence by revolution. Where revolution ceases, evolution begins; and where evolution ends, degeneration begins. Evolution is neither the sole law, nor even the most important law of nature. The law of revolution has played an equal, if not a more important part, in the production of the present order of nature. Evolution has a larger field of operation in development; but revolution performs a more important part in that it has to do with the origin of things, and not merely with their after development. Origin, development, and degeneration are three distinct ideas, but they are constantly confused in the writings of evolutionists. And the term evolution is used indifferently to express all the changes in nature, whether they are in the nature of origin, development, or degeneration. These three distinct kinds of changes are confounded in the discussion of this hypothesis, and the term evolution is freely extended to things that are entirely different from each other. The evolutionists, having merged all these distinct kinds of change into one, forget the fact that they are not law enactors, but law discoverers; and assert that the universe with all its teeming forms of life came into existence through the operations of the law of evolution.

The theory of evolution is merely a working hypothesis; and should not be transferred from the field of inquiry to that of fact, until it has been proven to be an established fact. To assert, as is so frequently done, that evolution is a proven result of science, is misleading. It is a necessity of the human mind to theorize, but it is disastrous to substitute working theories for demonstrated truth. The adoption of a working theory is necessary in order to learn the truth; but the working theory must not be accepted as true before every fact that is in any way related to it is satisfactorily explained. A theory, however promising, must be brought face to face with the facts, and if it fails to explain the facts it must be rejected. The theory must be fully verified in every particular, for without this it is nothing more than guess-work. And arguments should never be built on a mere working theory, as if it had been demonstrated.

Evolution and special creation are simply working theories by which it is undertaken to account for the universe and life. Thoroughgoing evolutionists hold that the laws of nature account for the universe and life without the necessity of divine intervention. The special creationists contend that Almighty God brought all things animate and inanimate into existence by direct intervention. And as they both claim to be the sole explanation of the origin of all things, we must weigh the evidence for and against them. This must be done impartially, without fear or favor. The same tests should be applied to both hypotheses without distinction. But that both theories have been treated impartially is by no means true. For example, Spencer says: "Just as the supposition that races of organisms have been specially created is discredited by its origin; so, conversely, the supposition that races of organisms have been evolved is credited by its origin. Instead of being a conception suggested and accepted when mankind were profoundly ig-

norant, it is a conception born in times of comparative enlightenment. . . . Thus the derivation of this modern hypothesis is as favorable as that of the ancient hypothesis is unfavorable.”* The tendency to generalize characterizes the writers of evolution. They find that some ancient hypotheses were false, and they draw the conclusion that all ancient theories are false. But this is an illogical and manifestly irrational conclusion. What has been held as true should not be rejected until it has been proven false and the true theory established in its place. A hypothesis that has survived so many conflicts in the field of controversy, as that of special creation, must have something to recommend it. The fact that it has survived, while other theories have perished, is presumptive proof, at least, that it has something to commend it to our consideration except the mere fact of its antiquity. According to the teachings of evolutionists, it must even be regarded as an evidence of its truth that it has survived through all these ages of adverse criticism that have been waged against it. Any one who believes as thoroughly in the “survival of the fittest” as Mr. Spencer does, ought not to have rejected this ancient hypothesis of special creation, lest in doing so he discredit his doctrine of the “survival of the fittest.” If this ancient theory of special creation is not true, it is a striking example of the survival of the unfit. A theory that is accepted as true must be founded on observation and be supported by the facts. And a hypothesis is not to be rejected because it is old, or to be accepted because it is new; but must be accepted or rejected, according as it conforms to the given facts in the case.

The hypotheses of evolution and special creation, however, can not both be true. And the impossibility of either

*Principles of Biology, Vol. I, p. 346.

theory being true can not be proved. Simply for this reason, that you can not prove a negative. Special creationists have sought diligently to establish their hypothesis by trying to prove the impossibility of evolution. Evolutionists have challenged the opposers of their theory to disprove evolution. And religionists, with less wisdom than zeal, have accepted the challenge, but they have signally failed in the attempt, because they have undertaken the impossible. It is manifestly unfair and illogical to call upon special creationists to prove a negative. When evolutionists assert that the organic world has been evolved from the inorganic, it is right to demand the proof of the assertion, and it is their duty to furnish it. And evolutionists have no right whatever to take the position that their theory can not be disproved, and place the burden of proof upon special creationists. The theory of special creation being already in the field and generally accepted, the burden of proof rests on evolutionists.

Mere negative reasoning, which points out the weakness of a hypothesis without establishing any positive facts, will not satisfy the sincere inquirer after truth. Negative arguments have their value in revealing the weak points and showing the fallacies of a theory; but in order to convince the mind there must accompany them the demonstration of positive truth.

Writers for special creation, to a great extent, have failed to produce any positive arguments in support of their theory, and consequently have weakened their cause. Almost all the arguments for special creation have been based on teleology, and have been addressed to the reason. It is true that the arguments from design are convincing, and have never been satisfactorily answered by materialists; but this method of argument is abstract and speculative, and it has been made to appear that evolution is supported by the con-

crete arguments of demonstrated science. The method of proof employed by evolutionists has carried with it great weight, and many doubtless have been convinced of the truth of the hypothesis, because it seemed to be based on demonstrated science. The almost exclusive use of the design argument that has been relied upon to substantiate the hypothesis of special creation has no doubt prejudiced many against the theory, because it appeared that it had nothing to support it except these abstract arguments. In this discussion we shall undertake not only to present negative proof, showing that evolution can not be true; but shall present positive arguments in favor of special creation, drawing upon science for demonstrated truths which tend to establish this hypothesis as the method by which the organic and inorganic world was produced.

Theories are formulated to aid us in ascertaining the truth. Evolution and special creation are merely working theories. And it should be clearly understood that neither theory admits of positive proof, except such as may amount to a moral demonstration. The hypothesis that seems to be the more rational we are entitled to suppose is the true one. The rationality of a hypothesis is its fitness to be accepted, because it has in its favor the strongest probabilities. The rationality of any theory is always less than an absolutely certain test of truth. The limited range of our faculties prevents a full view of all the elements that enter into any question of probability. Special creation and evolution admit of no proof but that which amounts to a moral demonstration by means of the prepondering weight of probability. The evidence that is adduced is merely a probability of a lower or a higher degree, and never rises to an absolute certainty. Inductive inferences are not absolutely certain, but are merely probable truths. They can not be demonstrated like a mathematical problem, but are quite sufficient

to satisfy the mind. These hypotheses of special creation and evolution are only probable conjectures. And what we desire to learn is which one of them ought to be accepted as true, because it has in its favor the highest attainable amount of probabilities, which renders it to us a moral certainty. These theories are deduced from many distinct and separate facts, and hence depend somewhat on circumstantial evidence. The question to be determined by investigation is whether the circumstantial evidence which tends to establish one hypothesis in our convictions is stronger than the circumstantial evidence that is adduced to support the other theory. Nothing must be taken for granted but every fact must be thoroughly established by proof. And the preponderance of evidence must be such that the conviction will be forced upon us that the hypothesis we accept is true. The lack of evidence does not disprove the possibility of a given theory being true; but the lack of evidence should restrain us from accepting a mere working theory as established. The truth of a theory must rest on the soundness of the arguments by which it is supported. And these arguments must be tested by the rules that govern sound reasoning. And the theories must stand or fall according as they conform to the known facts. The hypothesis that we accept must account for the origin of the universe, the species, and man by proofs that satisfy the rules of evidence by which our beliefs are determined. And a hypothesis must be rejected if it is contradicted by a single well-established fact.*

Theories are permissible as furnishing possible explanations of known facts; but they ought not to be assumed as themselves facts, and then made to regulate the whole discussion as though they had been clearly demonstrated. But

*Creation or Evolution.—Curtis.

the hypothesis of evolution has been assumed to be true; and, then, the evidence based on its truth has been used to establish the truth of the theory itself. And it has even been claimed that the only way to establish the truth of the theory is to first reach the conviction that is true. Spencer says: "Before it can be ascertained how organized beings have gradually evolved, there must be reached the conviction that they have been gradually evolved." This is the method by which all the systems of error have been foisted upon the world in the past; and which is now being used so successfully in propagating these so-called philosophies and systems of error that are winning so many converts in every part of the land. If the conviction is first reached that any given theory is true, no matter how absurd and unreasonable it may be, its truth can be established to the entire satisfaction of the one who has been thus convinced. Men have looked within them, closing their eyes to the external world, and have succeeded in proving to themselves that there is no material world. And, on the other hand, they have looked without, closing their eyes to the world that is within them, and have come to the conclusion that there is nothing in this universe but matter. If we first form our theory, then convince ourselves of its truth, we can establish any theory to our entire satisfaction. It is necessary to formulate a theory of how organized beings originated before we can ascertain how they originated, but there should be no conviction reached until the evidence is thoroughly examined. And, if we really desire to learn the truth, we must lay aside our preconceived notions; and examine the evidence in the case without prejudice, and with the determination to accept the results of the investigation whatever they may be.

We must carefully weigh the evidence adduced for these theories, and accept the hypothesis that has the preponder-

ance of evidence in its favor. Which one of these theories is supported by the scientific facts and substantiated by sound reasoning? Does the theory of evolution or that of special creation possess the elements of supreme probability which alone can establish its truth?

The theory that is finally accepted as fully demonstrated must establish three important facts. First, it must locate the cause of all natural phenomena, prove that the cause exists, and that it is the true cause of the phenomena; second, it must establish the fact, beyond a reasonable doubt, that the cause is competent to produce the results achieved, and able to supply the means necessary for their achievement; and, third, it must further show that no other cause is competent to produce these phenomena, for, if any other cause accounts for them equally well, the theory falls short of demonstration.* In the chapters that follow we propose to test the hypotheses of evolution and special creation by these three rules, and the theory that meets these conditions we shall accept as the true explanation of the origin of the universe, the species, and man.

*Origin of Species.—Huxley.

Part I

EVOLUTION

"Evolution is an integration of matter and concomitant dissipation of motion, during which the matter passes from an indefinite, incoherent homogeneity to a definite, coherent heterogeneity, and during which the retained motion undergoes a parallel transformation."—*Spencer*.

"Evolution is a continuous progressive change, according to certain laws, by means of resident forces."—*Le Conte*.

"Thirty years ago many scientists, and all but a few theologians, believed that all the species of animals came into existence independently and by direct creative fiat. Now there are very few men of scientific attainments, few even of our religious thinkers, who do not believe in the gradual evolution of one species from another, and that even Man is to be included—physically at least—in the category of those creatures who have developed from lower orders by 'descent and gradual modification.' It would seem at this point of time as impossible to resist the cogency of the scientific argument in this direction, and keep back the advancing tide of Evolutionary thought with the besom of a literalistic interpretation of Scripture, as it was for Dame Partington, in Sydney Smith's story, to repel the inroads of the Atlantic Ocean with her mop."—*Griffith-Jones*.

"But it is time we all understood how finally at variance with the heart of Christian faith and hope is any doctrine of evolution that views the *whole* of human nature as the product of 'continuous creation,'—as merely the last term in a process of transmissive causation. The product of such a process could not be morally free, nor, consequently, morally responsible. It must needs be merely a mass of 'inherited tendency;' and, howsoever fair its effect might appear, no life of genuine dutifulness, no life of goodness freely chosen, could enter into its being."—*Howison*.

EVOLUTION

EVOLUTION is frequently spoken of as the "new philosophy." But evolution as a philosophy, however, is very far from being new. Its teachings are but varying expressions of the more ancient philosophies taught by the philosophers of the remote ages of the past. But evolution, as it is set forth in its present scientific form, is of comparatively recent origin. The first record of evolution in its new form is in 1748, when a Frenchman, by the name of De Maillet, advanced the theory that plants and animals were not special creations; but were the spontaneously modified forms of nature. The times were not yet ripe for such a radical theory; and, consequently, it attracted very little attention, even among naturalists.

Lamarck, another distinguished French naturalist, in 1808, taught the doctrine of "Transmutation of the Species;" and was the first man whose deductions on the subject excited much notice. He became convinced from his study of animal forms, on account of the similarity of structure between them, that one animal had passed into another; and that the lower forms of life had been transmuted into the higher. He contended that all the species including man, had descended from other species. And he called attention to the probability that all the changes in the inorganic, as well as the organic world, were the result of law, and not of miraculous interposition.

While recognizing the influence of the physical conditions of life and the crossings of already existing forms, he attributed the transmutation in animals chiefly to desire and inherited tendency. The giraffe, for example, was at first an animal with a short neck, but by reaching up to feed on the leaves of trees in times of drouth, its neck became gradually lengthened. Water birds, in a similar way, gradually increased the length of their necks and legs. The swan once had a short neck, but by reaching down to secure food at the bottom of streams its neck finally reached its present proportions. The crane was formerly a bird with short legs, but by wading in water of increasing depth in search of food its legs were gradually lengthened.

But it was not until a half century later, however, that the theory of evolution was successfully launched. In the year 1848, Charles Darwin, a naturalist of extensive knowledge and indefatigable research, published his work, "The Origin of Species," which has been regarded by some as the greatest work of the past century. He rejected the idea advanced by Lamarck as to the cause of the transmutation of the species; and taught that the diversified forms of life were evolved out of the lower and simpler structures by a process which he called "natural selection." He inferred from his study of plants and animals under domestication that the changes which had taken place under artificial selection were similar to the changes that had taken place in nature under natural selection. Instead of the necks and legs of birds and beasts being produced in the manner indicated by Lamarck, they were the result of natural selection. In the time of drouth long-necked animals subsisted on the

leaves of trees, and birds with long necks and legs by reason of this advantage secured food in deeper water. The animals and birds that possessed these advantages survived the drouth and propagated their species, while those that lacked these advantages all perished. These peculiarities became hereditary, and finally, by means of natural selection and the survival of the fittest, the giraffe and the swan, the heron and the crane, were produced in their present form. Darwin offered to the world in his principle of natural selection what purported to be the final solution of the problem of the origin of life. He taught that at first there were probably a few simple forms into which the Creator breathed the breath of life, but that the species, as we now know them, were not brought into existence by special acts of creation. The disciples of Darwin, as is usually the case with the followers of some great teacher, have carried the theory further than their master, and have rejected this first act of the creation of a few low forms as unnecessary.

The hypothesis of evolution has assumed various forms. In fact there has been little uniformity among its adherents. The theory itself, it might be said, has been in a state of transition, now taking one form, and then assuming another. Evolutionists may be divided into three schools, according to the peculiarities of their teachings. There is uniformity of belief among the different schools as to the fact of evolution, but there is no uniformity as to the exact methods of its operations, especially, as to the beginning of its processes.

Agnostic evolutionists, of which school Herbert Spencer is the most distinguished representative, while they accept the theory as it is otherwise held by the majority

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of its adherents, yet they contend that back of the phenomena of nature there is an infinite and eternal energy from which all things proceed. But they hold that this eternal energy, which is the explanation of all natural phenomena, is utterly unknown and unknowable.

Monistic evolutionists carry the theory to its logical conclusion; and not only reject an act of creation for the lowest forms of life, but also reject the idea of there being any unknown energy back of nature. They claim that all the phenomena of nature are produced by mechanical causes, and not by prearranged and purposive causes. Matter itself without life evolved life, and from this animated matter the various forms of life have been slowly developed. Everything in the universe, animated and inanimated, is the product of the operations of blind chance. There is no intelligence, no will, no energy, above the mechanical forces, that in any way conditions the forces and operations of nature. "All the different forms of organisms," says Haeckel, "which people are inclined to look upon as the products of creative power, acting for a definite purpose, we, accepting the theory of selection, can conceive as necessary productions of natural selection working without a purpose."

Theistic evolutionists hold to the theory as to the methods of its operations in producing the universe and life, but attribute the cause of the development to a supreme First Cause. The first animal, so to speak, was God's vicegerent in creating all other animals, with each variation and every specific change, until the highest form of ape diverged into the lowest form of man. After the first act of creation, God looks on as a disinterested party, while evolution works out his plans and purposes in the

universe. There has been an attempt made, recently, to modify this objectionable view of the theory, which makes God an impassive spectator, while evolution works out his purposes. And the Almighty is represented as continually pouring his divine energies into living forms, and carrying them forward to further development. This is a kind of refined pantheism, which does not quite identify God with everything that exists, but makes his actual presence and energy in nature the cause of the process of evolution.*

It is of vital importance to this discussion that the theory of evolution as it is defined by its exponents be clearly stated, and its significance fully comprehended by the reader. "Evolution is an integration of matter and a concomitant dissipation of motion, during which matter passes from an indefinite, incoherent homogeneity to a definite, coherent heterogeneity." This is a definition that by no means clearly defines evolution, but we gather something of the meaning intended from these ambiguous and high-sounding terms. Its meaning is something like this: Evolution brings matter from an unstable, widely diffused condition into a relatively stable and complex whole, in which process there is an expenditure of motion. And we gather further from the definition that evolution is a process of development which is always from the indefinite to the definite, from the incoherent to the coherent, from the homogeneous to the heterogeneous, from the simple to the complex, and from the low to the high. The evolution is from the homogeneous nebula to the heterogeneous world; from the simple cell to the complex

*Evolution and Man.—Conley.

animal; from the lowest form of life at the beginning through every form of animated being until man is reached, the highest form of life on earth; from the family to the clan; from the clan to the tribe; and from the tribe to the nation. The organic and inorganic worlds have developed by a regular and orderly sequence from the simple to the more complex forms, and from the lower to the higher forms. Evolution presents nature as a serial of items arranged in a succession from the least up to the greatest. Under no circumstances whatever can the development be reversed, and proceed downward from the complex to the simple, and from the high to the low. It is a progressive upward change. Degeneration under evolution is a contradiction of terms. Evolution can neither go backward nor downward. It is invariably a development from the crude to the refined, from the imperfect to the perfect, from the simple structure to the complex arrangement of parts, and from the lowly organic beings to the higher grades of organisms.

"Evolution is a continuous progressive change, according to certain laws, and by means of resident forces." Evolution is a continuous development of material forms, organic and inorganic. Permanent progressive change is a fundamental principle of evolution. There have been no breaks whatever in the process from its incipency in the first germ cell up to the development of man. Gradually during unnumbered ages the higher forms of life have succeeded the lower forms in an ever-ascending scale. There has been an unbroken chain of lives from the lowest forms of life up to the highest. New forms have been evolved out of existing forms, and have not been produced by miracu-

lous breaks such as the theory of special creation presupposes. And all this continuous development, mark you, is by means of resident forces, and not by some power outside of nature. The phrase "by means of resident forces" can not be understood to mean that God is continually pouring his divine energies into existing forms and in this way causes them to develop into higher forms. Whatever its author may have meant, the phrase must be understood to mean that the evolution of the forms of life takes place wholly by means of the forces already resident in existing forms which had been imparted to them at the beginning of their career.

There is entire conformity among evolutionists on these fundamental principles of their theory. It matters not how widely they may differ as to the cause back of the evolution, they are all agreed that evolution is a continuous progressive change from the simple to the complex. They agree that the evolution is by means of resident forces, but they differ as to the source from whence the forces are derived. The thorough-going evolutionists are materialists, and do not believe that there are any other causes than material causes. The agnostics and the theists are not very far apart in their position on the ultimate cause of the evolution. The agnostics believe in an eternal energy back of nature which is the explanation of the present order. The theist believes in the existence of Almighty God, who has given an existence to all things, but that evolution has been the method he has employed in producing them. But these causes operate about in the same manner. The energy, whether divine or eternal, resides within and not apart from that which is developed. The evolution is continuous, it is progress-

ive, and it is by means of resident forces. We accept these definitions of the theory of evolution as they are given to us by its advocates. And in this discussion we shall adhere strictly to the doctrine as it is defined by evolutionists themselves. And, further, we shall insist that evolutionists shall also adhere to the theory as they have defined it. There must be no playing fast and loose with the term in order to make out a case, or evade a difficulty. It can not be made to include a retrograde movement at one stage of the development, and a sudden cataclysmic change at another stage. The theory as it is set forth by its advocates means a progressive development by slow degrees of change extending throughout endless years of time. And it must be confined strictly within these limits that have been marked out for it by evolutionists themselves. If it can be shown that the changes in nature have not been continuous, have not always been progressive, and have not been without break, evolution can not be substantiated.

According to evolution the universe is the result of an immense number of changes constituting a progression that is something like the unfolding of the plant from the seed. A plant comes into existence by a gradual process of change. From a simple beginning in the seed, it slowly expands into something more and more complex. The seed is without organs and has scarcely any distinction of parts, but the fully developed plant has roots, stem, branches, leaves, and blossom. The plant differs immeasurably from the seed in structure, form, size, color, and chemical composition. There is no visible resemblance between the seed before it is placed in the ground and the plant after it has reached maturity. And

the earth, as it were, is but a plant in the great garden of worlds. Its development until life appears is like the growth of the plant till the bud appears. The appearance and gradual swelling of the bud is like the appearance and gradual unfolding of the earth's life. The appearance of man is the final opening of the bud to disclose the beauty and fragrance of the flower. The earth has reached its present condition by age-long development from a primitive nebulous condition that bears no more resemblance to its present form than the seed does to the mature plant. The earth revolved in space for myriads of ages before it was fitted for habitation. It slowly formed itself into a suitable dwelling place for living beings. There was the formation of seas and continents, mountains and valleys, lakes and rivers, plants and animals, preparatory to the coming of man. In the course of the earth's development, however, there came a time when the conditions were favorable, and life appeared; but in its lowest forms, forms so low that they could scarcely be distinguished as either plant or animal. And from these lowly beginnings, life unfolded along with the developing earth into higher and higher forms, until man appeared as the crowning work of evolution. The belief of the evolutionists is aptly and beautifully expressed in the language of the poet:

"I, too, rest in faith;
That man's perfection is the crowning flower
Toward which the urgent sap in life's great tree
Is pressing; seen in puny blossom now,
But in the world's great to-morrow to expand
With broadest petal and with deepest glow."

At a certain definite time in the history of the earth's development, the primordial cell, the parent of all other organisms, came into existence out of inorganic matter. The earth having been produced and fitted for habitation, then matter organized itself along finer and higher lines. Its operations became more intricate until, at length, under favorable conditions, from inorganic matter, the living cell originated. The primitive cell was evolved gradually from matter by laws inherent in matter. After the first step in the organization of the protoplasmic cell, all else followed by natural law without purpose and without design. For, the cell having been once evolved from non-living matter, in the course of many centuries it produced plants and animals, beginning with the lowest forms, then producing higher and richer varieties. In all probability the cell developed first into a lancelet, a low form of aquatic worm, which became the first animal in the real march of life. The primordial cell developed into a worm, the worm changed into a fish, the fish was metamorphosed into a reptile, the reptile was evolved into a bird, the bird in the course of time became a quadruped, the quadruped by transmutation became an ape, and finally the ape developed into a man.

"And the worm striving to be man,
Mounts through all the spires of form."

In this upward movement there was a steady, uninterrupted progress from the lower to the higher forms of life. The mode of the origin of the new species was by uniform rate of change and gradation so insensible that there was scarcely such a thing as a distinct species.

The species originated by gradual, infinitesimal changes through successive generations. There has been an infinite shading of forms into one another, and what appeared as a distinct animal, at one period of animal development, gradually became something else. There was a perpetual change marked by stages of increase of complexity and diversity of being, so that the phenomena of the earth gradually attained a higher and higher type of life.

Evolution presents the view of a cosmic whole, constituted by varying members descended from its own primitive form by derivations so slight and gradual as not to suggest difference of origin, but to indicate their kinship and community of origin. The changes that have taken place in the evolution of life resemble the method by which a moving picture is produced. Each distinct picture on the rapidly moving photographic film is taken at such a slight difference of position from the preceding picture, that as the film is passed through the machine and the picture is thrown upon the canvas, the thing pictured performs its evolutions as if it were living and real. Each animal form in the upward march of the earth's life is like a distinct picture on the moving photographic film. Each distinct organism is but a slight step in the march of evolution in the organic kingdom. Age succeeded age, as the varied forms of life succeeded each other in an ever-ascending scale, until at length man—a rational, self-conscious, self-directing being—comes upon the stage of action. Evolution began with protoplasm and ended with man, and all the way between them the development has been a perfect symmetry. It has been an infinite series, each member of which has had a share

in producing man. Successive forms have slowly changed into one another, so that, were the fossil records complete, we could trace the earth's life in an unbroken line from man back to the primordial cell at the beginning.

Man is merely the result of progress in the animal kingdom. He never had a paradise, but is advancing toward one from a cellular starting point, a hundred million years back. As the completed product of evolution he is merely the higher development of the ape. He was evolved out of primitive matter by means of certain fixed laws, without the intervention of creative power. A reasonable and consistent view of organisms can assume no supernatural act of creation for even the simplest and lowest forms of life. Each higher animal species was evolved from a lower until man was developed, who consummates an ascent during cycles of inconceivable duration.

But man was developed immediately from an ape-like creature through a number of intermediate steps. In order to make out a case for the evolution of man, it was necessary to assume the existence of a species of anthropoid apes. It is admitted that man could not have been developed from any species of existent ape, because their bodily structure is such that it is impossible for man to have descended from them. Present apes are but distant relatives of the apes from which man is supposed to have developed. Back in the abysmal depths of the primeval forests, in the dim obscurity of the distant past, among the ordinary apes there was one, that in the course of time became somewhat more advanced in the scale of being than his fellows. This was a most sagacious and

enterprising ape. He had ambition to rise in the world and make something out of himself more than a common, ordinary ape. This ape made constant improvement until there came a time, when he had so far advanced in the scale of being that he had placed a gulf between himself and his less enterprising brother apes. In the course of his history there came a drouth which caused a wide-extended famine, during which food became very scarce, and this ape was preserved because of his superior advantages, while all the other apes perished in the struggle for existence. He was able to take advantage of these unfavorable circumstances, and survived, while they, not being fitted for such adverse conditions, all perished. In this way he became completely isolated from his kind. The progress was started by this individual ape shooting ahead of his species, and the advance was maintained by his being shut off from his species in this way. If it had not been for the destruction of the unfit by means of the famine, all the progress he had made would ultimately have been lost through inter-breeding. Years upon years passed during which he propagated his species, until this species of ape reached a high degree of development.*

This suppositious ape, as we learn from the writings of the most distinguished evolutionists, was rather more human-like in appearance than apelike. He was covered with blackish woolly hair, and both sexes had beards. He had a long narrow head with pointed ears, and great canine teeth protruded from his mouth, which he used

*Evolution or Creation.—Townsend.

with good effect in defending himself from his enemies. He had a long tail, by means of which he hung to the limbs of the trees in which he made his home the most of his time, for he was arboreal in his habits. When upon the ground, he stood upon his hind feet, and walked about in the erect posture by using a stick in both hands as a cane. He was social in his habits, and communicated freely with his fellows by means of gesture, grimace, and voice. He was accustomed to use his voice readily and somewhat loudly in expressing his emotions, uttering danger signals, and singing. His singing was what would to-day be called operatic by those not able to appreciate classic music. It was the producing of true musical cadences, and was expressed especially during courtship. He may have reached a high degree of voice culture by the use of these vocal exercises, but as he was without articulate speech, his singing must have resembled somewhat the howling of a dog. This ape is called *Homo Allalus*, on account of his inability to use articulate speech. This is not a caricature, but a composite picture, made up from the writings of leading evolutionists.

Untold ages passed during which this race of men-like apes, through natural selection and the survival of the fittest, became greatly improved. The process of evolution, at length, brought about the same conditions that had formerly taken place among the lower apes, which produced this manlike ape. A certain *Homo Allalus* that had succeeded in getting a start of all the rest of his kind, became tired of jumping from tree to tree, and aspired to be something still higher. He uncurled his tail from the tree to which he had been clinging, and to which

his ancestors had been content to cling, and descended to the ground to take up his abode. He could no longer be content with the monotony of arboreal life, and he resolved henceforth to dwell upon the ground, and become a man. In some great famine his species being unfit to survive, all perished, while he, by means of his superior attainments, was able to sustain life. At least, in some manner he is preserved, while they are swept from the face of the earth. Their destruction was so complete that not a single vestige of them was left, and, if it were not for the presence of man on the earth, we would not know that they ever had had an existence. But man is here, therefore they must have existed, for there is no other satisfactory way to account for the presence of man. In this upward march he lost his caudal appendix, and became more manlike in appearance. He gradually advanced from a manlike ape, until he was evolved into an apelike man. At length, in the process of his development, he became a man in the physical sense of the word, but, of course, he was a very low type of even physical man. He is known to the world in this stage of his development by the distinguishing appellation of *Homo Sapiens*.

The ages come and go, and *Homo Sapiens* makes constant improvement. The powers that were formerly employed in developing the body were now turned upon the brain; and as a result the intellect gradually rose to commanding power. Mental evolution now succeeded organic evolution. The physical life had reached its climax in the development of man's body, and the evolution of the future must be the development of the intellectual

powers of man. Nature having evolved man, her masterpiece, there was nothing left for her to do but to perfect him. The mental faculties of man have every one grown out of the operations of the same physical agencies that formed his body. The human mind grew out of matter, which was first without mind; but mind was evolved in the course of countless ages. All the changes in the mind are the result of the movements of atoms affected by central forces. The mind was evolved through the upward process by which matter became nervous organization. It was developed by the action of organized matter beginning at the lowest form of animal life; and passing through successive gradations of animal structure, until habits were formed which became instincts, and instinct was gradually developed into mind. The earliest forms of life were impelled to act in a certain way by superimposed laws of self-preservation. And through successive generations these laws have operated to produce numberless gradations of structures in the development of which fixed habits have become complex instincts. And further gradations have developed these complex instincts into mental powers. In this way instinct rose from its lowest action through successive improvements until it became intellect.

Man in his totality has been evolved by the interaction of organisms and environment. The process of evolution resulted in the formation of higher animals and in the development of the social instincts into more complex, refined, and consciously calculating instincts of the same nature, which became final products and distinct organisms. All manifestations of intelligence are included

in the evolutionary process. Man is the last number of a series extending over many millions of years. And the development of his moral powers, the highest and noblest of human attributes, is but the last term in the series of cosmic developments. Man is finally evolved into a complete man, physically, mentally, and morally through the mechanical action of matter and the social instincts common to animals.

But man was yet only a primitive savage. There follows another period of development of great magnitude, during which he becomes a civilized man as we now find him. But for many thousands of years he was a savage of the lowest type. He fought with his enemies, and preyed on his fellows, the stronger on the weaker. Life was a constant free fight, and the war of each against all. The earth is one great battlefield heaped with the slain of countless millions of the race. It is a slaughter-pen resounding with the ceaseless cries of its helpless victims.*

Humanity is immortal, as it were, but the individual is nothing but an atom that forms a part of the race for a little while, then perishes forever. The individual is sacrificed that mankind may be perfected. Man is in no sense a separate creation and distinct from other animals. He is not endowed with an individual soul animated by the breath of God. He is only the highest product of the cosmic process which has evolved animal life from inorganic matter. And he sprang immediately from the group of apes directly beneath him in the scale of being. He is the outcome of untold ages of ceaseless conflict in

*The Ascent of Man.—Drummond.

nature, and has survived because he was strong enough to trample under foot and drive to the wall his weaker kinsmen.

"This is the lesson Nature has to teach,
Woe to the conquered, victory to the strong!
And so, through all the ages, step by step,
The stronger and craftiest replaced
The weaker, and increased and multiplied.
And in the end the outcome of the strife was man,
Who had dominion over all things, and the stronger man
Trampled his weaker brother under foot."

II.

One thing, at least, is manifest to the most casual observer in regard to the hypothesis of evolution; that is, the surface current is all running in one direction. This new philosophy is profoundly affecting all branches of knowledge. There is scarcely a book written to-day, no matter on what subject it treats, that does not either follow the evolutionary theory as a basis of treatment, or acknowledge the truth of its teachings by frequent references to its principles. It has pervaded every field of learning, and forced its method of treatment upon them all. The literature of almost every branch of knowledge is being rewritten in order to bring it into harmony with the new philosophy. And as the result of this we have "the new science," "the new psychology," "the new sociology," "the new ethics," "the new theology," and even "the new fiction." But this is just as it should be, if the theory is true. All the branches of knowledge must be recast in the evolutionary mold, and made to conform to the new philosophy. The theory has been accepted as a definite

part of our knowledge, hence all of our literature is being brought into harmony with it.

But before we accept evolution as a finality, we should know what it means to the fullest extent. Man can not be expected to give a cordial assent to that which destroys his personality, and strikes at all the hopes that make life worth the living. But the mere fact that it bears unfavorably upon the highest hopes indulged in by man can not alter the fact of its truth. If the doctrine of evolution is true, we can not refuse to accept it, with all its far-reaching results, however destructive it may be. But we should know what its bearings are on our highest interests, so that when we accept it we may do so intelligently, and with full appreciation of its consequences. It is no proper refutation of a theory to show its evil results. It must be accepted, if true, regardless of its consequences. The hopes and beliefs that do not harmonize with its teachings must be abandoned, no matter if we are robbed of all we hold dear in life. We must accept the consequences, if we accept the theory of evolution, however disastrous to our cherished beliefs. Our most cherished beliefs and fondest hopes can not change the constitution of the universe. The aspirations and longings of humanity can not become important evidence either for or against any view of what that constitution may be. If the theory is a proven result of science, though we may not accept its teachings with any degree of pleasure, yet they must nevertheless be accepted, if fully demonstrated. If they are only the result of philosophical deductions, we may reject them with the hope that in the future some new discovery will confirm and justify our belief in special creation, which has given rise to these hopes and aspira-

tions within us. But if they are demonstrated by science, there is no possibility of our evading them; they must be accepted with all their far-reaching consequences, however detrimental to the hopes of humanity. Human nature is not prepared to face despair until it shall be proved beyond question that despair must be faced. But, if the hypothesis of evolution is demonstrated, we must face the consequences as gracefully as possible.*

If evolution is true, there are some results of the doctrine that are inevitable. When the theory is carried to its logical conclusion, as it must be, it becomes destructive to such an extent as to make its consequences seem to us a calamity. Evolution is atheistic in its teachings, though all who accept it are not atheists. The thoroughgoing evolutionist eliminates the idea of a Creator, and reduces everything to the action of atoms and forces which constitute the substance of all things. The universe is a great machine whose multiplied changes result from the power supplied at the beginning. There is no final cause, for the forces of nature are practically and inherently omnipotent. There is, in fact, nothing but matter and force which constitute the substance of all things. Divine sovereignty and special providence are annulled. Evolution is unmitigated and immitigable fatalism. There can be no personal God. A personal God is unthinkable. The hypothesis is essentially materialistic, and denies all design. Matter and force are eternal. Everything has an immediate cause, and there is no cause of causes. Intelligence is the outgrowth of nature and not nature the result of intelligence. The female bird creates the plumage

*The Limits of Evolution.—Howison.

of her mate. The bee creates the flowers. Light creates the eye. The anthropoid ape creates man. There is no God but necessity. Give the evolutionist a bit of matter and a little force to begin with, and he can produce the universe, if you will only give him time enough. He makes of these atoms and forces of nature a supreme God, attributing to them the same powers that are commonly attributed to the Almighty. What was formerly regarded as an evidence of design and purpose in nature is simply the outcome and result of the unconscious and eternal forces of matter. All the phenomena of nature can be included in a purely mechanical formula. Natural causes produced living beings in the beginning, and have since kept up the progressive movement, and have given it direction without the necessity of a supervisional will, or creative power back of it. Evolutionists present unconscious atoms with various powers of mind, and then exalt them by one supreme grant of unlimited possibilities into a power capable of producing intelligent beings; capable not only of producing man with all his intellectual endowments, but capable of replacing an intelligent Creator; capable not only of fashioning the earth with all its varied forms of life, but capable of producing the universe itself; capable not only of producing the universe, but capable of fixing the worlds in the infinitude of space and causing them to revolve true to their orbits throughout the endless cycles of eternity.

Evolution is fatalism pure and simple. In all things and everywhere it prevails. All that takes place is the inevitable and blind necessity of all that has previously happened. The history of the world is restricted to the successive unfoldings of a series of states, all of which

were contained in the primitive states of the world. Each moment in the history of the world is accounted for by the conditions of the previous moment. Yesterday, to-day, and forever; event follows event with inevitable certainty. The man who could fully grasp all the facts of to-day, could foretell the events of to-morrow. The Hebrew prophets were not divinely inspired, but possessed an intelligence that enabled them to grasp the incidents of their little world, hence they were able to successfully predict future events.* Every event has its cause; that is, every event must be determined by some preceding event, and must itself determine some succeeding event. Causation, therefore, is the unconditional and the inevitable sequence of one event upon another. If men were free to act for themselves, independent of the influences that surround them, no prediction could be made as to the certainty of future events; but as they are not able to make any independent choice, the events of to-morrow can be calculated accurately from the conditions of to-day. And in this way, by the application of the principles of mathematics to the present happenings, an event can be foretold a hundred years before it transpires.

Evolution is the black creed of necessity. The dark shadows of fatalism pervade the world, and cast their blighting gloom over the human race. All things in this world are fatally predetermined and hang together in the adamantine fixity of a system of nature composed of an endless chain of links. The parts of the universe laid down absolutely appoint and decree what the other parts shall be. The future, therefore, has no ambiguous possi-

*Life and Literature of the Ancient Hebrews.—Abbott.

bilities; for any other future complement than that one fixed from eternity is impossible. The freedom of the will which has had such widespread acceptance can not be true. Man is no more free in his moral choices than he is in the physical realm. Determinism is the true doctrine, and, though it has been obscured somewhat in recent religious teaching, it must in time reassert itself. Calvinistic creeds do not need revising; for the very doctrines that have met with the strongest opposition are the very truth of God, as it is writ large in nature. Freedom, it is true, has triumphed for a time over determinism. But determinism is again in the saddle—has a worthy champion in the new philosophy—and freedom will soon be de horsed.*

Man is not a conscious person who can feel and act for himself from free choice. All his actions are necessitated, each act being simply the result of mechanical conditions, and is absolutely inevitable. All of our so-called active decisions are irrevocably bound together by causal chains that extend back in unbroken retrogression through a limitless past. Man is a mere automaton. He acts only as he is acted upon by some force over which he has no control. He is only a part of nature, and as such is the product of its forces, and not that of rational causation. He is an effect, his body, his intellect, his consciousness, are only the result of the circumstances that have necessitated his being. His thoughts and actions are regulated by laws as absolute as those that govern the ebb and flow of the tides. Man is not living, rather, he is being lived. Evolution destroys personal identity and merges mankind

*The Foundations of Belief.—Balfour.

into a whole. Mankind is marching forward like the French army at the battle of Waterloo. The French, in obedience to the command of their great general, charged across the valley and up the hillside until they came to the sunken road. The front ranks paused on its brink, but those behind them crowded them into the road, and, in their turn, were crowded in by those behind them until the road was filled with the bodies of men and horses, and the columns behind them crossed on the bodies of their comrades that filled the road. Life is a sunken road into which the front ranks of humanity are being crowded in order that those which follow may cross on their prostrate bodies. Irrational, purposeless, planless, humanity goes forward to meet its final doom.

Everything that man does has been previously received from his progenitors. His conceptions have been built up for him in this irresistible fashion. Cognitions in man are irresistible, a part of the nature of things, and incapable of change. They are the result of transmitted inheritances which were handed down to him through generation after generation of successive ancestors handing down their accumulated associations in an ever-increasing mass and cohesion. The eternity behind him throbs through him, and compels him to act as he does. His ancestors, long since dead and returned to dust, speak down the centuries through him. What man thinks, wills, and does, he must think, will, and do. Man's hopes and fears, his affections and aspirations are the result of nervous action. A man's character depends entirely on the quantity and quality of the nervous energy that has been transmitted to him from his ancestors. He can no more change his conduct than he can change the color of his

skin. The blackest crime is as innocent and virtuous as the noblest deed. The blow with which the assassin strikes his victim to the earth, and the loving caress the mother bestows upon her child are equally automatic and inevitable. Heroism is a delusion and virtue is a dream. It destroys personal responsibility, and makes the enforcement of the penalty of any law a crime. Crime, sin, guilt, repentance, remorse, sorrow, virtue, merit, are nothing more than so many empty names. Man may take a life or save one, it matters not, the act is forced upon him by existing circumstances, and is wholly lacking in merit. Whatever is, is right. The distinction of right and wrong, good and evil, are the products of the social instincts, which have been fostered by society until they have gained their present distinction. But in reality there is no moral order, no objective right. There is no unchanging law of morals, no absolute distinction between good and evil.

It is true that the evolutionist deduces certain moral maxims from his observation of life. He perceives that certain courses of conduct produce pleasure, these he calls right; but certain other courses of conduct cause suffering, these he calls wrong. He measures conduct from its visible results, and deduces principles of moral actions from his observations of such results. In this way he accounts for the ethical beliefs that are commonly received.

Evolution completely annuls free moral agency and personal freedom. But the question may be asked, If necessity reigns supreme, how did the delusion of freedom arise? The evolutionists answer that this notion originated in a natural manner as the inference from certain actions of the mind. Volition means merely the

power to obey the strongest motive. There is only the process of willing, as one of the processes of the mind itself. And volition is simply the transformation of feeling into action, which is attended by conscious comparison of impressions involving resultant desire and impressions. Man's actions are the result of the acquired instincts of the organisms that have had to struggle for life. He has within him tendencies and passions that descended to him from innumerable ancestors who made him the sum of all their experiences. "Man is haunted by dead ancestors who look through his eyes, speak in his words, act in his deeds. He is composed of echoes of spent passions, shreds and patches of worn-out sins, rags and tatters of the past."

Evolution makes man a mere animal. He is somewhat more highly developed in his structure than other animals, but there is no real difference between him and the lower animals. They have understanding, reason, consciousness, will, feeling, in a less highly developed form. The difference is one of degree not of kind. Man is a more finely constructed machine than other animals. But he is simply a higher animal, and differs from other animals only in the degree of the development to which he has attained. But he does not differ in any essential particular from the lower animals. He is actually what they are potentially. He is merely the product of organized matter as they are. He came from matter, and in a little while to matter he will return.

The doctrine of evolution is incompatible with the belief in the immortality of the soul. The instant that death takes place the brain ceases its operations; and as soon as the brain ceases to act, the soul ceases to be, for

it is wholly dependent on the functions of the brain. The soul is nothing but a highly developed form of instinct. The ego is the entire organism including the nervous system, and is not a person—an independent existence. Therefore, according to evolution, man's soul is not a spiritual entity capable of surviving the body. Consciousness consists of tracts of feelings in the nervous system. Man can not have a spiritual principle within him—an immortal soul—for there is nothing but matter out of which to evolve the soul. We know that it is an unchanging law that like produces its like, matter produces matter, and never anything higher, though it may assume various forms. The idea of generating a spiritual entity out of matter is inconceivable. If there was not a spiritual nature imparted to man at the beginning of his existence by a higher spiritual being, he can not have such a nature. Animals can transmit only that which they possess themselves; and, as man was evolved from the lower animals, he has nothing more than an animal soul. That man can not have a spiritual nature is manifest, for evolution does away with a personal God, and there is no source from which man could derive an immortal soul.

The intuitions of man as to things unseen are valueless and unfounded. The so-called intuitional ideas are due to ancestral experiences, whose results have been cumulatively registered in brain tissue through unnumbered generations, and have been transmitted from parent to child. The theory of evolution pushed to its logical conclusion, denies the continuance of individual existence after death; hence, the immortality of the soul. Man is an animal—the highest and wisest animal—but nothing more than an animal. Man is matter in transition

from lower matter to higher matter. He is matter a little higher organized, but nothing but matter still. And when his body is decomposed, all that distinguishes him as a man resolves itself again into matter.

The evolutionary philosophy is fatal to religious belief. Those who accept the hypothesis must dismiss religion from the field of respectable intelligence. The revolutionary character of the doctrine does not seem to have been clearly comprehended by the professors of religion who accept it. Many sincere religionists have openly embraced the theory, seemingly without the least suspicion of its hostility to the fundamental doctrines of their faith. But evolution is accepted by them at a fearful cost to their system of religious teaching. "What could break the spring of life more completely than to feel that our feet are tangled in a net whose meshes were woven for us by our ancestors, and for them by tailless apes, and for them by gilled amphibians, and for them by gliding worms, and for them by ciliated larvæ, and for them by amœbæ, and for them by God does not know what. It does not help the case in the least to do as some theologians have tried to do, and bring back into the theory by the aid of certain misconstrued and very much overworked passages of Scripture, the idea of a supreme Deity who has constructed the loom and designed the pattern of the net and decreed the weaving of every loop. The chain of fate is not made less heavy by fastening the end of it to the distant throne of an omnipotent and impassive Creator."*

Evolution teaches that Christianity is as much the

*The Gospel for an Age of Doubt, p. 216.

natural growth of the law of circumstances as any thing else. Man first worshiped his grandfather, and from the worship of his grandfather to that of his ghost, after his ancestor's death, was but a slight step. As the number of his ancestors increased, his worship became polytheistic. It became pantheistic as his superstitions increased and he worshiped everything. And it finally became monotheistic as he was led to worship the one strongest power known to him. Monotheism at length culminated in Judaism. Judaism was natural religion evolved through polytheism. It was a natural development from antecedent conditions due to environment and resident forces. And Christianity is the natural outgrowth of Judaism.* The religionist who accepts evolution as the sole explanation of the physical world can not discard it when he comes to the spiritual realm, but must apply it here likewise. He can not apply its teachings to account for the origin of all other things, and lay it aside in the realm of religion without explanation. If evolution has developed man from the brute creation with all his higher faculties, it is only reasonable to suppose that by precisely the same physical causes, it has given us the Christian religion.

Evolution robs man of his freedom, his responsibility, his personality, his soul, his immortality, his religion, and his God, and makes of him an individualized bit of matter for a temporary purpose. When this temporary purpose has been fulfilled, and he has contributed his small share to the survival of the fittest, he is reabsorbed by the great mass of matter of which the earth is comprised.

*The Evolution of Christianity.—Abbott.

THE PROOFS OF EVOLUTION

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"Those who hold to the doctrine of Evolution are by no means ignorant of the uncertainty of their data; and they yield to it only a provisional assent."—*Tyndall*.

"Wherever there are complex masses of phenomena to be inquired into, whether they be phenomena of the affairs of daily life, or whether they belong to the more abstruse and difficult problems laid before the philosopher, our course of proceeding in unraveling that complex chain of phenomena with a view to get at its cause, is always the same; in all cases we must invent a hypothesis; we must place before ourselves some more or less likely supposition respecting that cause; and then, having assumed a hypothesis, having supposed a cause for the phenomena in question, we must endeavor, on the one hand, to demonstrate our hypothesis, or, on the other, to upset and reject it altogether, by testing it in three ways. We must, in the first place, be prepared to prove that the supposed causes of the phenomena exist in nature; that they are what the logicians call *vera causæ*—true causes; in the next place, we should be prepared to show that the assumed causes of the phenomena are competent to produce such phenomena as those which we wish to explain by them; and in the last place, we ought to be able to show that no other known causes are competent to produce these phenomena."—*Huxley*.

THE PROOFS OF EVOLUTION

THERE are numerous arguments by which it is sought to establish the theory of evolution. The proofs of the hypothesis cover a wide field, but the reader who is not familiar with the line of argument can get a good idea of it from a brief statement of the evidence adduced to prove the truth of the theory. While evolutionists have written many ponderous volumes setting forth almost *ad infinitum* the details of the proofs of the theory, yet in reality there are only a few lines of argument that are employed to substantiate evolution, and these may be stated in a few brief paragraphs. It is not claimed that the evidence for evolution is sufficient to establish the theory; but it is held that there is some evidence that may be presented in its favor, while there is none whatever to be presented in favor of special creation. Spencer says of this evidence: "It is not simply legitimate instead of illegitimate, because representable in thought, instead of unrepresentable, but it has the support of some evidence, instead of being absolutely unsupported by evidence. Though the facts at present assignable in *direct* proof that by progressive modifications, races of organisms that are apparently distinct may result from antecedent races, are not sufficient; yet there are numerous facts of the order required."*

*Principles of Biology, Vol. I, p. 351.

We shall present in the briefest possible space the proofs that are relied upon to establish the hypothesis, and shall set forth the objections that are made to them, endeavoring to point out their weakness and to show their insufficiency to substantiate the theory.

I. GEOGRAPHICAL DISTRIBUTION.

It is claimed by the advocates of evolution that the distribution of plants and animals over the surface of the earth is such as we would expect were they produced by evolution. Animals, for example, are limited to certain areas of the earth's surface. In one country you find certain species, while in an adjacent country you discover entirely distinct species. If they were produced by special creation, it is thought that there is no good reason for this unequal distribution. The species should be scattered uniformly over the earth, and not be confined to narrow districts as we find them, if they were produced by divine intervention. Huxley calls attention to the horse as an illustration of this limited distribution of animal species. He says: "Horses, like all other animals, have certain limits—are confined to a certain area on the surface of the earth on which we live—and, as that is the simpler matter, I may take that first. In the wild state, and before the discovery of America, when the natural state of things was interfered with by the Spaniards, the horse was only to be found in parts of the earth which are known to geographers as the Old World: that is to say, you might meet with the horse in Europe, Asia, Africa; but there were none in Australia, and there were

none whatsoever in the whole continent of America, from Labrador down to Cape Horn. 'This is an empirical fact, and is what is called, stated in the way I have given it you, the 'Geographical Distribution' of the horse.'* 'This is an unfortunate illustration for the theory of evolution, for, instead of its being proof of the transmutation of the species, it has no real bearing on the theory. 'The fact is, the horse was once a native of this country. We find his fossil remains along with those of other species that once flourished on this continent. It is true that the horse is well adapted to the conditions that now exist in this country, but there has been a time in the remote past, when the conditions were unfavorable. And as a result of these unfavorable conditions the horse perished. This may have been brought about gradually by degeneration, or it may have been the result of some sudden cataclysmic change of climate. But the horse native to this land, in some manner unknown to us, was exterminated. And what was true of the horse on this continent may have been true of the species to a greater or less extent all over the globe. For all we know to the contrary, there may have been at one time equal distribution of all the species over the surface of the earth, and by degeneration, or sudden change in the climate or surface of the earth itself, they may have perished in some places and been preserved in others, like the horse. There would be some force in the argument from distribution if the surface of the earth and the climate had remained the same from the beginning. But we are not dealing with original conditions, hence there is no real force in the fact

*Origin of Species, p. 22.

that there is at the present time unequal distribution of the species on the face of the earth.

The fact that a large group of species, widely distributed in a given district, has more varieties than a small group of species confined to narrow limits, is taken as evidence that new species have been evolved from others under favorable conditions. It is held that, if each species is a special creation, there is no apparent reason why more varieties should occur in a group having many species than in one having few. But these facts are not as difficult as they may appear at first sight. The large number of species distributed over a wide area of country would find conditions favorable to their preservation as they were originally created. And as they are widely separated with distinct environment and somewhat different local conditions, there might be a tendency to produce slightly different varieties among them. But with the few species confined to the narrow limits, the conditions would be different from those under which they were placed at creation, and the law of degeneration would tend to limit the number of the species. The conditions being unfavorable, the species would tend to die off, and in time many of them might become exterminated. A limited range and a scanty supply of food would tend to diminish the number of the species, and this is why there are fewer varieties in a small group than in a large one. And instead of there being no apparent reason for numerous varieties in widely distributed species and fewer varieties where the species are confined to a small territory, the facts are just as we should expect them to be, if they were produced by special creation.

There are other facts, however, for which the evolu-

tionary hypothesis can give no satisfactory explanation. In Australia, for example, with its dry winds, open plains, stormy desert, and its temperate climate there are produced animals and birds, which are closely related to those inhabiting the hot, damp, luxurious forests of New Guinea. And Borneo and New Guinea are as like as two distinct countries can well be, yet they are zoologically as wide asunder as the poles. The island of Bali has a climate almost as dry and a soil almost as arid as the island of Timor. These islands are constructed after the same pattern, bathed by the same ocean, but between them there is the widest possible contrast, when we compare their animal productions. These facts can be explained on the theory of special creation when we take into consideration the vast changes that have taken place in the earth's surface by earthquake and geological revolution, but there is no possibility of explaining them according to any theory of transmutation that is held by the advocates of evolution. If evolution is true, similar environment ought to produce similar results, but manifestly similar conditions have produced dissimilar results, which is inconsistent with the theory and contrary to reason.

II. NATURAL SELECTION.

Natural selection was inferred by Darwin from artificial selection under domestication. He observed that varieties were developed under domestication by artificial selection, and reasoned that in the same way varieties may have been preserved and new species produced by natural selection under nature. Any new powers and organs that might be produced by natural selection would

be preserved and perpetuated in the offspring through many successive generations. The individual animals in which these favorable individual differences and variations of structure were preserved would have the best chance of surviving and propagating their kind. The process is supposed to have continued through the gradual evolution of successive higher types of animals from the lower to the higher until man is reached. In this supposed struggle for existence, on account of numbers and possible famine, which takes place between the numerous individuals, the law of natural selection comes into operation by which animals are secured from destruction on account of the disparity between them and the amount of food or the unfavorable influence of a sudden change of climate. The strongest and most active animals would have the best chance of surviving, because best fitted to secure food or endure privation. And in this way the individual best suited to continue the species would survive, while the weaker and less active animals would perish.

Natural selection is not a constituent factor of the process of evolution itself, but is merely an ingenious attempt to explain how evolution may have taken place. But it is spoken of as if it had an actual existence and was a constituent factor in development by the writers of evolution. The supposed law is thus stated by its distinguished author: "Can it, then, be thought improbable, seeing that variations useful to man have undoubtedly occurred, that other variations useful in some way to each being in the great and complex battle for life should occur in the course of many successive generations? If such do occur, can we doubt (remembering that many

more individuals are born than can possibly survive) that individuals having an advantage, however slight, over others would have the best chance of surviving, and of procreating their kind? On the other hand we may feel sure that any variation in the least degree injurious would be rigidly destroyed. This preservation of favorable individual differences and variations, and the destruction of those which are injurious, I have called 'Natural Selection,' or the survival of the fittest.*

The title of Mr. Darwin's work, "The Origin of Species," leads one to believe that he treats of the origin of the species, but it is not claimed that natural selection has any productive power whatever. The title of the book is misleading, for it does not tell us anything of the origin of the species. Natural selection, as it is set forth in the book, shows how the species may have persisted, and the fittest survived, but it fails to explain how they originated. There could be no natural selection until there was something from which to select, and this something had produced in some way a variety that could be preserved. The survival of the fittest does not account for the origin of the fittest. How the species came to be in the first place, is entirely ignored. The author says: "I may here premise that I have nothing more to do with the origin of mental powers any more than I have that of life itself."† He attempts to show how the species may have been transmuted from one into another, and from the lower into the higher; but he does not deal directly with the question of origin. He does not even hold that

*The Origin of Species, Vol. I, p. 98.

†Ibid., p. 319.

natural selection could induce a variety in a species after it had originated. He says: "Some have even imagined that natural selection induces variability, whereas it implies only the preservation of such varieties as arise and are beneficial to the being under its conditions of life."* Natural selection, in its supposed operations, is limited to preserving anything beneficial to the animal that has been gained by some other means. If in the struggle for existence any new powers are acquired, it retains and transmits them to the animal's posterity. Granting the origin of life and variability, it undertakes to account for new species by descent with modification.

But does this selective breeding occur in nature? Are natural causes competent to play the part of selection in producing new species? Darwin took the position that a careful study of plants and animals under domestication would show how new species were introduced. He inferred, from the fact that varieties were produced by artificial selection under domestication, that similar effects took place under nature. Had he stopped with this inference there could have been no great fault found with his reasoning, but he assumed that new species were produced in this way by natural selection. Nature is said to select the best individuals to live and propagate their species. Nature is spoken of as if it were an intelligent agent, and more power is assumed for nature than is granted to man with all his intellectual endowments. "Not one man in a thousand," he says, "has accuracy of eye and judgment to become an eminent breeder. If gifted with these qualities, and he studies his subject for

*The Origin of Species, Vol. I, p. 99.

years, and devotes his lifetime to it with indomitable perseverance, he will succeed, and make great improvements; if he wants any of these qualities, he will fail.”* It will be seen from this quotation that the author of natural selection admits the supreme difficulty of artificial selection, but in his theory of natural selection he grants more to unintelligent nature than to man with all his advantages. If it is so difficult to become a successful breeder under domestication, with all the advantages possessed by man, it is utterly impossible for new species to have been produced by natural selection. And Mr. Darwin makes a further admission in which he acknowledges the fact that it is more difficult to produce variety under nature than under domestication. “This great variability is due to our domestic productions having been raised under conditions of life not so uniform as, and somewhat different from those to which parent species had been exposed under nature.”† If a directing mind is necessary under the more favorable conditions of domestication to produce varieties, how much greater need there would be for a directing mind to produce any such modifications under the more uniform and less favorable conditions of nature?

What Darwin says of the breeding of cats, in contrast with the breeding of pigeons by artificial selection, approximates somewhat to the conditions under nature. There would be no restraint under nature and there is some restraint on these animals under domestication. “Pigeons, I may add, can be propagated in great num-

*The Origin of Species, Vol. I, p. 36.

†Ibid., p. 7.

bers and at a very quick rate, and inferior birds may be freely rejected as when killed for food. On the other hand, cats from their nocturnal rambling habits can not be easily matched, and, although so much valued by women and children, we rarely see a distinct breed long kept up: such breeds as we do sometimes see are almost always imported from some other country.”* If under domestication the animals were allowed to breed freely as cats do, the work of the breeder would utterly fail; for it is only by constant care of men of accuracy of eye and judgment that animals that are easily bred are kept up to the required standard. And under nature there would be nothing to hinder interbreeding, hence the development of new species would be an impossibility by natural selection. And we are forced to regard natural selection as inadequate to account for the various species.

Different varieties have been developed from some original stock by artificial selection, but no new and distinct kind of animal has ever been produced. There are many different kinds of pigeons that have been developed from the common rock pigeons. There are carriers, fan-tails, pouters, tumblers, but they are all pigeons. There are various kinds of dogs, curs, pugs, poodles, terriers, pointers, setters, spaniels, shepherds, but they are nothing but dogs. There are many different varieties of horses, the race, road, coach, draft, but they are only horses after all. The pigeons are pigeons, the dogs are dogs, and the horses are horses. There is no evidence in these highly developed varietal forms for the theory of evolution. No species has ever gradually lost its distinctive

*The Origin of Species, Vol. I, p. 47.

characteristics so as to change into some entirely different form of animal. As far as we can trace the species back in geological history birds have been birds, reptiles have been reptiles, apes have been apes, and men have been men. In all that has been accomplished through artificial selection by breeding from the improved animals, no animal has yet been produced that varied from its progenitors in anything but advantageous peculiarities. If it is impossible to accomplish the change of one animal into another and distinct kind of animal by artificial selection under domestication, it is impossible that any such change could be accomplished by natural selection under nature, where no such selection in all probability would be made.

It is taught that natural selection only preserves slight advantageous improvements in an animal, and that it can not preserve a marked modification. If natural selection can not preserve a marked modification, how is it possible for it to preserve a small variation? It would naturally appear that, if either could be preserved, the advantage would be with the more marked variation; and, if this could not be preserved, the less marked could not. If it is true that all abnormal divergence in a species tends to revert to the normal form, instead of perpetuating itself, then it follows that the assumptions of evolutionists make two laws of nature work against each other. The one law takes a marked modification, and reduces it to the normal; while the other takes a slight divergence, and causes it to increase until there is developed in this way a new species. The forces of nature, we know, are constantly arrayed against the life forces. This theory makes much of the destruction of the vast majority of

life forms by means of the destructive forces of nature. How could it be possible, when nature is "red in tooth and claw" against life, that it has dealt so kindly with these slight advantageous variations? It is not reasonable to suppose that natural selection, in the face of these opposing forces, is competent to give rise to new species.

We find that every species transmits to its offspring the natural characteristics of its own species, and never those belonging to another. Animals are only variable within certain limits. They can be changed within these limits by artificial selection, but they can not be changed into something else. When evolutionists, by selective breeding, can produce from the same stock two varieties so widely different that a cross between them will produce sterile hybrids, they may claim that there is some basis of truth in their hypothesis.

There has been time to observe the workings of nature in the production of new varieties among the species since the theory of natural selection was first advanced, and it has been found that the theory utterly breaks down. Its fundamental principles are contradicted before our very eyes. The botanist has observed that new plants appear suddenly in the full perfection of their powers. They spring into existence like Jonah's gourd fully equipped, and are positive refutations of the theory of natural selection. And the same fact has been observed with domestic fowls. For example, the "black-shouldered," or "janned" peacocks appeared suddenly in England in the flocks among the common kind. They have been looked upon as a new species; they are, to say the least, a very highly developed variety, if they are not a distinct species. This new species appeared suddenly

with their distinctive characteristic, which is in direct violation of the essential principles of natural selection. There is no explanation that evolutionists can offer that will explain the origin of these new species of plants and birds. For if these plants and birds could make their appearance suddenly on the stage of action, is there any satisfactory reason why all the plant and animal species may not have originated in the same manner? These two observed facts as to how these species have originated are of greater value than all the speculation that evolutionists have indulged in on the subject. Natural selection was hailed at first as the solution to the origin of all things, but evolutionists themselves have had to abandon it as the exclusive explanation of the origin of natural phenomena. They still persist in regarding it as one of the factors in evolution, but it is no longer held to be all sufficient as it once was.

III. SEXUAL SELECTION.

Sexual selection embodies exactly the same idea as natural selection, but the thought is expressed in a different way. It is employed to supplement and re-enforce natural selection. And like natural selection it is a creature of the imagination. Its author having evolved the former selection, conceived this idea of sexual selection as a kind of after-thought. It assumes that a struggle has taken place between the males in the animal kingdom for the possession of the females. While there does not appear to have been any such disparity in the numbers between the sexes that would lead to any such struggle, yet it is assumed that there must have been a struggle of

this kind. It is taken for granted that the stronger and more active males would naturally overcome the weaker and less active males in this struggle; and as a consequence would produce offspring, while the weaker males would produce few or no offspring. The female "taste" is supposed also to have played an important part in this selection. The female selected the most attractive and highly colored male which led, especially among birds, to the production of males with highly developed colors and markings. The best appointed males in their strife for the females would develop new organs and powers by means of natural selection. Their descendants would share in these advantageous modifications. And in this way the modifications would multiply in a geometrical ratio of increase through millions of years, until finally there would be produced an animal that totally differed from its remote ancestor.

This struggle for the opposite sex, however, could not have begun until the sexes were separated from each other. The sexes are conceived by evolutionists as at first being unisexual, and after further development as becoming bisexual. There could be no struggle for the opposite sex as long as the two were combined in the same animal. At a definite time in the evolution of the species a radical change must have taken place, when, by means of an "inevitable cleavage," the sexes that had been united in the same animal became separated. The different sexes, as well as the animals themselves, must have originated in some other way before there could have been any struggle between the males for the females. There was no real reason, then, for any such a struggle to begin, for there never has been such a disparity of num-

bers between the males and females as to necessitate it. It is true that some time in the course of the world's history, there might have been a severe famine, or some such event, that would fulfill the conditions required for natural selection. But there is no reason why the strong and fleet female should not have had an equal chance to survive with the male, and hence their numbers always remain practically the same.

The supposition that the highly colored plumage of the male birds have been produced by the female taste is not well founded; for, in all creatures below and above birds in the scale of being, color is largely independent of sex. And this well-known fact, that color as a rule is independent of sex, can only be accounted for by a begging of the question. It is claimed that colors were first selected by the female taste, and were afterward transmitted to both sexes. The rule is made to prove the exception, instead of the exception proving the rule, as is usually the case in other things. The female bird through her admiration for bright colors selected the plumage of her mate, and, hence, it follows that all other females have selected the colors in the same way; but in all other cases both sexes have finally come to inherit them without distinction of sex.

It does not always occur that the animal best adapted to propagate his species secures the female. It is not infrequent under nature that animals best fitted to produce their kind destroy themselves in fighting each other, while the weaker and less fit animals are left to propagate the species. Then, again, the less fit animal in color and form is not infrequently stronger than the more fit animal, and he propagates his kind instead of those best adapted

for this purpose. Our observation is that under domestication, where there is freedom of choice on the part of both sexes, which is rare, all have an equal chance of procreation regardless of color or form. And under nature there certainly is no reason why the same thing should not be true. We know that the unfit in society contribute more largely to the increase of the population than the fittest. The wealthy and educated classes are not even reproducing themselves, to say nothing of keeping up the progress of the race. Statesmen and educators have recognized the danger in this of race suicide, and have raised the cry of alarm. This same fact is observed under domestication with animals, as they become more highly developed they produce fewer offspring, and the tendency is toward sterility. And there is no reason to suppose that the same rule would not hold true in nature. It is merely a supposition that the strongest and best-equipped animals would beget all the offspring, while the weaker and less fit would beget none. The facts relating to the black-shouldered peacocks, of which mention has already been made, disprove this fine-spun theory of sexual selection. The males of this new species were weaker than those of the common kind among which they appeared, and they were always beaten in battle by the common kind. But in spite of these facts the species increased to the extinction of the previously existing breed wherever they appeared.

According to the theory of selection the process of development produces in the various animals minute and successive transitions, the organisms in this way become changed, and the entire animal becomes vastly superior to the ancient form. But these first forms under the

theory of selection would be few in number. "Owing to the high geometrical rate of increase of all organic beings, each area is fully stocked with inhabitants; and it follows from this, that as the favored forms increase in number, so, generally, will the less favored decrease and become rare. Rarity, as geology tells us, is the precursor of extinction. We can see that any form represented by few individuals will run a good chance of extinction."* And as these first forms that are supposed to have been produced by selection were rare they must have had little chance for existence in the struggle for life against the vast numbers of the common kind. The only way to avoid this difficulty is to assume that the supposed acquisition of new powers gave these rare forms a better chance of surviving, and at the same time making it easy for them to exist by destroying the less favored by the wholesale. Granting evolutionists these two things, the preservation of the favored forms and the destruction of the unfit, they evolve the species by selection.

But it is a fact that can not be gainsaid that we can go just so far in introducing changes in animals, when sterility and death ensue. We can not cross the barriers between the species because of this tendency of rarity to produce extinction. Is there any reason why this tendency would not hold good in selection under nature? The further an animal is removed from its original type, variation proceeds less and less rapidly until a limit is finally reached where no more variation is possible. Variation is a diminishing quantity, hence there are limits to it. When the stability of an organism is artificially al-

*The Origin of Species, Vol. I, p. 133.

tered, in the attempt to establish new breeds, infertility and death ensue, and this takes place under a similar selection to that which is supposed to have taken place under nature. And this fact is fatal to selection, either natural or sexual, to account for the transmutation of the species from the lower to the higher. Selection, therefore, is not competent to account for the phenomena of organized nature.

IV. SIMILARITY OF STRUCTURE.

The resemblance between various species, it is claimed, proves a common origin. It is thought that it can not be a mere coincidence that there exists just twenty segments in such a large number of species. It is assumed that if these species had originated by special creation there would have been a greater variety of structure. It is imagined that if God had created the species he would have introduced novelties in structure with great frequency. But why it should be inconsistent with special creation to have a uniform plan of creation, it is difficult to imagine. These twenty segments are found in animal varieties such as the moth, the beetle, and the lobster, which differ vastly in other respects. And it is inferred from this fact of their similarity, in this particular, that they had a common origin in some lower type of life with just twenty segments. But instead of finding in this fact a proof that these animal types were evolved from some lower forms of life with the same number of segments, we find in it an evidence of design. Why have these forms developed in other respects until they differ so widely, and not in this particular also, if they descended

from a common ancestor? The theory of special creation is the only hypothesis that gives a satisfactory answer to the question. The twenty segments exist in a large number of species that differ in size, outline, substance, and modes of existence. Here is a general plan on which all of these distinct forms are constructed. And this uniformity of plan of construction affords the highest probability of design. We observe that in all kinds of architecture there is one common plan that is used, no matter how widely the buildings differ in other respects. Some form of the arch is invariably employed in all kinds of architectural structures. Why has the use of the arch been so universally adopted? The answer is not difficult to find. It is because the arch is the best method of construction that human ingenuity could devise, in order to span space and at the same time support weight. It has been uniformly adopted, not merely because it adds to the beauty of the structure, but because it is the best method of construction. And the reason that there is this uniformity of structure in the frame of such a large number of animals is because it is the best possible plan of construction in order to enable them to perform their functions in life. The Creator did not choose to introduce variety in the plan of structure, but in the individual animals themselves. There are no two beings that are exactly alike in every particular, and, hence, there was no reason for a change of structure in order to introduce variety. Resemblance in structure, rather, points a common plan—a unity of design—instead of an evolution from a common ancestry. And evolutionists are forced to admit the independent origin of many species that are strikingly similar in structure. The same ideal plan

answers for many different species, because it is the best plan that could be devised. Supernatural causation is by no means inconsistent with uniformity of structure, but admits of a similarity in plan of construction. The introduction of novelties in the frames of animals would suggest that there were different originating powers, while uniformity of structure indicates one source of origin—one creative mind.

It is argued that as the human skeleton is constructed on the same principles as that of the apes, that they both must have descended from a common stock. But all these features of relationship do not justify the conclusion that apes and men had a common ancestry. Far greater than the undeniable points of similarity between apes and men are the far-reaching differences as indicated by the vertical position, the formation of the foot and hand, the shape of the skull, the size of the brain, and the moral nature. It was not necessary in forming man to devise a plan of construction differing in every particular from that employed in making the apes. It is claimed that the anthropoid apes correspond bone for bone, and muscle for muscle with man, and consequently they must have had a common origin. But while there may be a close resemblance in these particulars, yet there are other features in which they widely differ. It is the points of distinction between man and the ape that should be emphasized, and not their similarity. Evolutionists magnify the similarity, and fail to note the marked differences between them. Man is free, distinguishes between the right and the wrong, recognizes duty, has the power of speech, reasons, believes, worships, builds, and

creates. And what man creates is more than all he inherits.

But even in bodily structure there is such a marked difference between man and the anthropoid apes, that the once popular dogma that man is the direct descendant of the ape will have to be abandoned. No competent anatomist, who examines the bodily structure of the apes and that of man, considers it possible that the latter descended from the former. The skeleton of man was made and adjusted for the erect position; and the arms are entirely lifted above the ground instead of being required for locomotion, and manifestly have other and higher uses. On the other hand, the skeleton of the ape is not fitted for the upright posture, and the forearms are essential to locomotion. In man every bone is made and adjusted to the upright posture, and this position is easy and natural to him.*

The upright position is manifestly that for which the human frame was designed. The skull of man is so balanced by the attachment being placed well forward on the neck, that it is clear that man was meant to stand erect. The spine is so curved that it adapts the body to this posture, and the long pelvis forms a broad support for the intestines. The foot of man from its shape indicates that it was designed to stand upon, and his hand was constructed for the use of tools. The human foot is a stepping machine, and the human hand is a special organ for holding tools. And man is so constructed that by using his feet to carry his body, he has his hands free

*Anthropology.—Tylor.

for their special work. The skull of the ape is hung so far back on the neck as to clearly indicate that it was designed to go on all-fours. The anthropoid apes are adapted by their structure for a climbing life among the trees, whose branches they grasp with feet and hands. And when they walk upon the ground they shamble along clumsily by putting the bent knuckles and outer edge of the foot upon the ground. The hand and foot of the ape were designed for climbing and holding on to the branches of trees. Man is superior over the ape not merely in the vast difference of intellect between them, but also in his bodily structure, and the use of his hands in handling tools.

The anthropoid apes require a hot climate, while man is at his best in a cooler climate. The apes disappeared from Europe as soon as the climate became adapted to man. The apes have remained apes, and have been content to climb trees and sleep in the sunshine when their hunger is satisfied. If man began as a primitive savage, a dweller in caves with rudely-shaped stone implements for tools, he has ended by dwelling in a palace; and has invented all the marvelous labor-saving machines and the delicate instruments and useful inventions that add so much to the conveniences and enhance the business of our modern life. If man is so like the ape in structure, why this difference of achievement? Why has not some ape made an invention, or distinguished himself in literature? They are not of the same nature as man, they develop in different directions from him, they require a different climate, and they have achieved nothing, while man has achieved all the marvels of a twentieth-century civilization.

When we take into account man's mind, there is an immeasurable difference between man and the apes. The lowest man is greatly superior to the highest ape. The cubic capacity of the brain of the highest ape is thirty-four inches, and that of the lowest man is sixty-eight inches. From the mental point of view it is impossible to over-estimate the difference between man and the apes. It is man's brain that chiefly distinguishes him from the lower animals. There is here a sharp line of demarkation between them. There is a Rubicon here that the apes have never been able to cross. There are gradations among men from the highest to the lowest, but below man there is an abrupt break to the apes, which have a brain capacity of one-half less than man. The brain of the ape reaches its normal development just when the brain of the child begins to develop. And the development of the ape from this time on is altogether in the animal direction. All apes develop away from, and not toward, the human species. And it naturally follows that man could not have been developed from them, for their development is in different directions and toward different ends. The brain of the highest ape is not superior to that of an idiot. In fact, the ape is an idiot, except in its natural instincts and its remarkable unintelligent imitateness. The difference between the brain of the highest ape and the lowest man is accompanied by a difference of function and power that gives man his distinctive place among living beings.

The similarity of anatomical structure can not be so rationally accounted for as by special acts of creation by an intelligent Creator, who employs the same plan of construction for different animal forms. It is reasonable to

suppose that he would employ the best plan of construction, and not introduce changes in the bodily structure for mere variety's sake. The Creator is not so capricious that he would change his plans of operation for the purpose of introducing variety. There is always a uniformity in the works of man that stamps his individuality on the works of his brain and hands. And the very fact of similarity in the construction of the frames of various species stamps upon them the fact of their being the product of a single directing mind. If evolution has produced such vast changes in developing the species from the lower to the higher forms, why has it wrought no changes in articulation? It is asserted that similarity of structure in apes and men can only be accounted for on the supposition of a common ancestry. The array of facts terminate with the assertion that they are inexplicable on the hypothesis of special creation, and can only be accounted for by the theory of evolution, when in fact they are just as readily explained by special creation as by evolution.

V. RUDIMENTARY ORGANS.

Certain rudimentary organs are found in the human body which evolutionists think indicate that man has had a lower origin. The muscles that once moved the ears, and the peculiar shape of the ears themselves point to the fact that he is the descendant of the apes. The frame of the boaconstrictor reveals the fact that it once had legs and feet, the rudiments of which still remain. The whales have rudiments of limbs and teeth which go to prove that they have been evolved from something else into their

present form. The rudimentary organs are traced back to their normal existence in remote ancestral forms. But rudimentary organs have originated by degeneration and not by evolution. These rudiments instead of supporting the theory of descent from the lower to the higher forms, prove that the animals that have rudimentary organs could not retain useful organs after they were once developed. The rudimentary organs are not true to theory, but indicate that there has been a degeneration in the animal kingdom instead of an evolution.

The animals that have these rudiments are not as high in the scale of being as they once were in an earlier period of their history. There has not been, therefore, in their case a survival of the fittest, but a survival of the unfit. The boaconstrictor and the whale are not as high as they formerly were in the scale of being, for both of them have seen better days. They once walked proudly upon the earth, but they have been brought down to crawl upon the ground and swim in the seas. These animals instead of developing from the lower to the higher, from the simple to the complex, have gone from the higher to the lower, and from the complex to the more simple. Their development has been downward and not upward, which violates the fundamental principles of evolution. Haeckel says: "It is probable that remarkable legions of whales originated out of hoofed animals, which accustomed themselves exclusively to an aquatic life, and therefore became transformed into the shape of fish."* This is not true to theory, but on the contrary is diametrically opposed to it. Evolution is defined as a progressive

*History of Creation, Vol. II, p. 251.

change from the lower to the higher, from the simple to the complex. When we read such a statement as this, made by a distinguished evolutionist, we are puzzled whether to sacrifice his intellect at the expense of his sincerity, or his sincerity at the expense of his intellect. How men that claim to be scientists can be so blinded by a theory as to be unable to recognize the fact that the rudimentary organs in the whale violate the fundamental principles of the theory, is beyond comprehension. These facts do not show an evolution, but a de-evolution, for animals with feet and legs are higher in the scale of being than those that do not possess them. Some animals have retrograded since their origin, while others have been introduced that are higher in the scale of being, but evolution is credited with having developed them both, apparently, without any suspicion that those which have degenerated can not have been produced by evolution. This is trifling with the facts, and is a playing fast and loose with their own statements of the hypothesis. If evolution is a continuous progressive change, a development from the lower to the higher, these animals have not been evolved into their present condition, but have been brought lower in the scale of being by the law of degeneration. Evolutionists have either failed to see the inconsistency of claiming rudimentary organs as an evidence of evolution, or they have undertaken to mislead their readers by these claims. We could understand their attitude if they had ignored the matter altogether, but attempting to use the rudimentary organs, which are the result of the operations of the law of degeneration, as a proof of their hypothesis is beyond our comprehension.

VI. EMBRYOLOGY.

The argument for evolution from embryology is forcefully stated by Professor Drummond in a popular work of his on evolution. He says: "The proposition is not only that man begins his earthly existence in the guise of a lower animal-embryo, but that in successive transformations of the human embryo there is reproduced before our eyes a visible, actual, physical representation of part of the life history of the world. Human embryology is a condensed account, a recapitulation or epitome, of some of the main chapters in the natural history of the world. The same process of development which once took thousands of years for its consummation are here condensed, foreshortened, concentrated into the space of weeks. Each platform reached by the human embryo in its upward course represents the embryo of some lower animal which in some mysterious way has played a part in the pedigree of the human race, which may itself have disappeared long since from the earth, but is now and forever built into the inmost being of man. The lower animals, each at its successive stage, have stopped short in their development; man has gone on. At each fresh advance his embryo is found again abreast of some other animal-embryo a little higher in organization than that just passed. Continuing his ascent that also is overtaken, the now very complex embryo making up to one animal-embryo after another until it has distanced all in its series and stands alone."*

*The Ascent of Man, pp. 66, 67.

It is assumed from such considerations as are set forth in the foregoing quotation that all the races of men have not only a common origin, but one in common with other animals of the same order. It is held that embryology proves that the origin of each individual of the race is animal, and that he passes in the earlier stages of his existence in the embryo through a process of development analogous to, if not identical with, those through which other animals of the same order pass. The human embryo can not at first be distinguished from the embryos of these animals, and in its development it retains in all its earlier stages a close resemblance to embryonic animal life. It is assumed that this proves beyond question that man was developed by evolution from these animals which he resembles in his embryonic development. As there is a resemblance between the embryos of man, the fish, and the ape, the conclusion that is arrived at is that man, in reaching his present high state of development, must have passed through these animal species from fish to ape and from ape to man. The conclusion that is drawn from these resemblances is very plausible, appears logical, and seems convincing. Observation shows that the embryo in its development becomes more and more differentiated from the group of embryos that it previously resembled, and this divergence goes on until it reaches the species of which the embryo is a member. And as a matter of course species having a common ancestry will exhibit a parallelism in the embryonic development of their individual members.

But the explanation of these resemblances on the theory of special creation, which presupposes a common plan of procreation and gestation, is just as reasonable

and satisfactory. If we admit the truth of all these statements as they are set forth by evolutionists, it does not prove that man has been developed from the animals that he resembles in his embryonic development. If man is a special creation after a common plan of procreation and gestation, this would account for all the resemblances of embryonic growth between him and the lower animals. Mere resemblance of development proves nothing. The resemblance shows nothing more than that various animal forms are produced after the same general plan, and not that one has necessarily developed from the other. Take away the preconceived notion of evolution and there would be no special notice taken of these resemblances. Animals do not pass from one to another in their development, and never have done so, there is only a mere resemblance in the process of their development.

Special stress is laid upon the so-called rudimentary tail and the gill arches that appear in the development of the human embryo. These are taken as irrefutable proof of the fact that man developed from a fish through a tailed ancestor. These so-called gill arches are linear vertical depressions that appear in the region of the head in the early development of the embryo. These depressions determine the arrangement of various organs of the head region. They have never had any respiratory functions to perform. They make their appearance, persist for a time, and are then applied to some entirely different purpose. Indeed, in the human embryo they are not really clefts, but are merely grooves. In the embryo of man there are four of these grooves developed on each side of the body and five branchial arches. And these grooves

that appear in the early development of the embryo are converted in its later development into special structures. These grooves may be looked upon as the markings of nature in the animal pattern of the places where the future members of the face and head shall appear. They become the ears, nose, mouth, and jaws of the fully developed embryo. Haeckel is an authority that evolutionists will accept without question. And he says: "The first pair of gill arches differentiate into the rudiments of the upper and lower jaws. The gill openings disappear by concrescence. From the gill arches develop the jaws, the tongue, and the bonelets of the ear."* We learn therefore from the admission of evolutionists themselves that these grooves are not proof that the human embryo was developed from a fish ancestry, but that instead they are merely the outlines of the future organs of the face and head.

The rudimentary tail, which is said to be absorbed in the later development of the child, is only the extension of the backbone, and is not a proof of man's development from a tailed ancestor. The caudal filament, which is prominent in the embryonic development before the limbs have made their appearance, may have some resemblance to a tail. The frame of the body is formed before its members. And the lower end of the spinal column projects below the frame of the body, the lower limbs having not yet begun to develop, which gives the filament the appearance of a tail. But there is not a single joint of this column lost or absorbed in the future development of the child. The adult has precisely the same

**Evolution of Man*, Vol. I, p. 404.

number of joints that first appear in the embryo. It is true that the caudal filament gradually disappears in the later stages of development, but it is not by absorption. As the lower limbs begin to grow the so-called tail is submerged and concealed beneath adjacent parts as the muscles and tissues are taken on the frame of the body. It remains in the adult as it was in the embryo except it is concealed in the adult, while it is prominent in the first stages of development in the embryo. Before the conclusions were drawn in support of evolution from these alleged facts inquiry should have been made as to their truth. It does not tend to inspire confidence in evolutionists to read their assertions that man has been evolved from the lower animals because there is a recapitulation in his embryonic development of the animal forms through which he has passed in becoming a man, and find on investigation that there is no real scientific basis for such broad assertions.

But the alleged facts might all be true and not prove that man was evolved from the lower animals. There are instances of early development in the young of animals where there is no recapitulation in the adult animal. The young sea squirt, for example, has a backbone, but the mature animal has no trace of this rudimentary backbone. The fact confronts us that the young of an invertebrate class of animals anticipates the backbone of the coming vertebrate animal. But this organ disappears in the mature animal precisely as the rudimentary tail is alleged to disappear in man by absorption as the embryo develops. But there can be no recapitulation about the young sea squirt, for there is nothing to be recapitulated. Its rudimentary backbone precedes all vertebrate animals,

and it is found nowhere else in invertebrates. It does not show any ancestral forms through which it has developed. The fact of the rudimentary backbone of the young sea squirt destroys the force of the argument for evolution from embryology. If the young sea squirt has a rudimentary backbone that was not handed down to him by some remote ancestor, may not man have a caudal filament and gill arches without recapitulating some tailed ancestor or gilled amphibian?

Much has been made of the argument from embryology by a certain class of evolutionists, but the argument has been greatly overworked. There is nothing in the argument, because it is not based on fact. There is some resemblance between the development of the embryo of man and the embryos of other species. But the resemblance in embryonic development is not inconsistent with the theory of special creation. But these mere resemblances have been exaggerated into pictorial representations of the development of man from the lower order of beings. Spencer recognized the fact that entirely too much had been made of these slight resemblances in the embryonic development of man with the lower animals. He says: "An impression has been given by those who have popularized the statements of embryologists, that during its development, each higher organism passes through stages in which it resembles the adult forms of lower organisms—that the embryo of man is at one time like a fish, and at another time like a reptile. This is not a fact. The fact established is, that up to a certain point the embryos of a man and a fish continue similar, and that then differences begin to appear and increase—the one embryo approaching more and more towards the

form of a fish, the other diverging from it more and more. And so with the resemblances to the more advanced types. . . . The reader must also be cautioned against accepting this generalization as exact. The likenesses are not precise but approximate. Only leading characteristics are the same; not all the details."* The fact is, that at the beginning of embryonic development it is difficult to distinguish between the embryos of certain forms, but as they develop we can distinguish the differences between them more and more, until we can determine the species to which they belong. In this development, as there is a common plan of procreation and gestation, the different embryos bear some resemblance to each other. And in the human embryo we notice that the slight grooves in the region of the head resemble the gills of a fish, and that the little end of the backbone before the lower limbs have begun to develop looks like a tail. But the embryo of one animal never develops into another. The adult animal is in the embryo latently, and always develops into the species to which it belongs. That in this development there is some similarity of appearance does not prove that there has at some time been a common ancestral form from which they have developed. There is a resemblance between a wheel-barrow, a cart, and a wagon, but it does not follow that because the wheel-barrow has one wheel, and the cart two, and the wagon four, that the wagon was evolved from the single wheeled barrow through the two-wheeled cart. It is the preconceived theory that lends all the force to this argument from embryonic resemblances. It is drawing on the pre-

*Principles of Biology, Vol. I, p. 143.

conceived hypothesis, in order to give force to the arguments by which it is sought to establish its truth.

VII. ANALOGY.

The theory of the descent of man as an animal consists in assigning to him a certain pedigree, which traces his origanism through a long series of animals back to the lowest and crudest forms of animal life. An analogy is drawn from the development of an individual animal from the germ cell to adulthood and the development of the species in geological time. The argument from analogy is clearly set forth by Darwin in his illustration of the growth of a tree. He says: "The affinities of all beings of the same class have been sometimes represented by a great tree. I believe that this simile largely speaks the truth. The green and budding twigs may represent existing species; and those produced in former years may represent the long succession of extinct species. At each period of growth all the growing twigs have tried to branch out on all sides, and to overtop and kill the surrounding branches, in the same manner as the species and groups of species have at all times overmastered other species in the great battle for life. The limbs divided into great branches, and these into lesser and lesser branches, were themselves once, when the tree was young, budding twigs; and this connection of the former and present buds by ramifying branches may well represent the classification of all extinct and living species in groups subordinate to groups. Of the many twigs that flourished when the tree was a mere bush, only two or three, now grown into great branches, yet survive and bear the other

branches; so with the species that lived during the long-passed geological periods, very few have left living and modified descendants. From the first growth of the tree, many a limb and branch has decayed and dropped off; and these fallen branches of various sizes may represent those whole orders, families, and genera which have now no living representatives, and which are known to us only in a fossil state. . . . As buds give rise by growth to fresh buds, and these, if vigorous, branch out and over-top on all sides many a feebler branch, so by generation I believe it has been with the great tree of life, which fills with its dead and broken branches the crust of the earth, and covers the surface with its ever-branching and beautiful ramifications.”*

This supposed analogy will not hold, for the cases are not parallel. There are three distinct kinds of development in the realm of life, first, the development of the individual animal from the germ cell, second, the development of the animal from its infancy to adulthood, and third, the development of animals in geological time from the earliest and simplest forms to the modern and complex living animals. The growth of the tree is from the seed that includes it potentially, root, trunk, branch, limb, twig, bud, and leaf; and the development of the tree is but the unfolding of that which was contained in the seed in embryo. When you are in possession of the seed you possess the tree. All that is required is sufficient time for its development. The tree may be employed to illustrate two kinds of development, that of the animal from the germ cell and that of the young into the adult

*The Origin of Species, Vol. I, pp. 162, 163.

animal; but it is not an illustration of the third kind of development, that of animals in geological time. The twigs, the branches, and the buds naturally develop from the seed, and as the tree matures they develop into trunk, limbs, and branches. But they are all contained in and grow out of the individual seed, and have nothing whatever to do in producing any other kind of tree. The other species of tree have developed in precisely the same way, and no tree is ever produced from the seed of another and distinct kind of tree. The oak always grows out of an acorn, and the beech never is produced from any seed but the beech-nut. And this is precisely the way in which the animal species have been produced by generation, every one after his kind, and independent of every other kind.

This method of accounting for the origin of the species necessitates an unbroken connection of lives with lives. And it must be shown that the species have grown out of each other as the branches have grown out of the trunk of the tree. There must be a satisfactory explanation of the fact that distinct species of animals never produce any but their own type. We see that in the case of the tree, the seed invariably produces a definite and uniform result. But in the development of the species there has been a progressive and varying result. There have been developed, in geological time, untold millions of distinct species. The force that has developed the species has operated in an entirely different manner from the action of the life force in the seed which produces the tree. If so many different species have arisen in mutual independence, the affinities of the animal kingdom can not be represented by the symbol of a tree. The development

of the individual animal is made the basis of analogy between its development, and the succession of animals in geological time. The cases are not parallel, and therefore the analogy falls to the ground.

When the development of one animal from the embryo to adulthood is compared with the progress of animals in geological times, where the conditions and causes at work are dissimilar, the reasoning is fallacious. We have no evidence that the changes required have actually occurred in any given case, this is all taken for granted. The analogy has no foundation in fact, but is the result of the arbitrary interpretation of certain limited facts. The reasoning is from the partial and incomplete to the universal. It raises the infinite superstructure of a universal law upon the finite and comparatively narrow foundation of a few carefully ascertained facts. The analogy between the development of an individual animal from the embryo to adulthood and the succession of animals in geological time is only apparent and not real. The conclusion includes more than is contained in the premises. From a few isolated facts, that can as readily be explained by the theory of special creation, they draw universal conclusions. Evolutionists reason that, as far as they can test the processes of nature by observation, the method by which nature produces the individual animal is by evolution; and, where no test can be applied to her processes or observation be made, analogy requires that we suppose that she proceeds by the same method. And if the cases were parallel, the analogy would hold good, but as they are not, the reasoning is false.

Evolutionists extend the method of nature from the present into the past, and accept as probable the unknown

sequences of development from the lowest form in the beginning up to man at the present. This method of reasoning is placed on a level with the reasoning from analogy by which geologists apply modern causes to explain geological formations, which is perfectly legitimate reasoning. But when the development of the individual animal from the germ cell to adulthood is compared with the progress of the species themselves in geological time, the reasoning is fallacious because the conditions and causes are altogether different. Evolutionists have been carried away by this method of reasoning, and have failed to perceive that there is merely a general resemblance between processes altogether different, and therefore entirely different in their causes. They assume that successive types of animals are different stages of evolution, when there is no evidence to support any such conclusion. The development of the individual animal can not be regarded as the precise equivalent of the series of changes by which the species were produced in the course of geological history. Analogous processes are considered to be identical without regard to the different conditions under which they operate. And it is alleged that present forms have arisen out of past forms. They obliterate marked differences and arrange all the species in a connected series. They argue upon mere probabilities, from the known to the unknown, and conclude that the present species must have been developed from those of the past by the process of evolution because analogy warrants the assumption. The repetition of the probable in the theory has been carried to the verge of the improbable.

Evolutionists arrange everything in a progressive series, which goes on from one stage of development to

another. They trace the tree from the seed, the animal from the germ cell, the species from the primordial form, and the planetary system from the primitive nebula. And their assumptions are all substantiated by a process of reasoning peculiar to themselves. They reason constantly in a circle. And make frequent use of such phrases as these: "It can not be doubted," "we may therefore assume," "we may confidently assert," "we may readily suppose," "this afterwards assumes." They are highly proficient in the art of legerdemain. These phrases are equivalent to the sleight-of-hand performer's *presto*, change.* The following quotation from Le Conte is a fair sample of their method of reasoning: "Now, far back 'in the dark backward and abysm of time,' there was a time when *fishes* were the only representatives of the vertebrate plan of structure. Evidently at that time this plan of structure, or machine, was adapted only to locomotion in water. It was a *swimming machine*. Ages on ages passed—aeons upon aeons—until the time was ripe and the earth was prepared, and *reptiles* were introduced. Now we have a new function, that of locomotion on land. Do we find a new organ introduced for this purpose? By no means. The same organ which was a swimming organ before, by certain modification of its parts, without essential change, becomes a *crawling* organ. Ages on ages pass away—aeons on aeons—until the time was ripe and the earth was prepared, and *birds* were introduced. Here we have a new, a beautiful, a wonderful function—that of locomotion in air. Shall we not have a new organ for this? By no means. The same organ is again

*Modern Ideas of Evolution.—Dawson.

slightly modified, and becomes the *wing* of a bird. Ages upon ages pass away—aeons on aeons—until the time was fully ripe and the earth was fully prepared, and man was introduced; man made in the image of God; man, endowed with reason and capable of infinite progress; man the interpreter of nature, and the worshiper of God. Now we want another and most exquisite organ, delicate and dexterous, which shall be the willing tool and the co-operator with the mind of man in his progress—we want a *hand*. But nature's laws are not violated even for man; and again the same organ is slightly modified for this purpose. And thus in the hand of man, in the fore foot of the quadruped, in the paw of the reptile, in the wing of a bird, and in the fin of a fish the same organ is modified for various purposes. What I have said of this member is true of the whole structure.”*

There is not the slightest proof adduced to show how these changes took place. The evolutionist waves his magic wand and the fin of a fish changes through a paw and a wing into the hand of man. While you are looking on a fish with a fin, it is transformed into a reptile with a paw. And as you gaze upon the reptile crawling on the ground, suddenly it is metamorphosed into a bird with wings, and you see it flying through the air. But before you have become accustomed to this change it has become a quadruped, walking on the ground and climbing the trees. And you hardly have time to become reconciled to this new form, until the quadruped vanishes from your view, and a man stands before you in all the perfection of the human form. These various changes have

*Religion and Science, pp. 57, 58.

been brought about by the art of legerdemain. All that demands proof is quietly taken for granted, and the fish grows before your very eyes through these various forms into a perfect man. The evolutionists show in this manner how man may have been introduced. They describe conditions that may have existed, influences that may have been at work, and set forth a series of transformations that may have taken place. On the assumption that all these changes have actually occurred, we can understand how man has been produced. But all this, however, is a mere matter of assumption. It can neither be proved that these conditions existed, that these forces were at work, nor that this chain of transformations was ever consummated. Evolutionists profess to be astonished that their assumptions should be called into question. And when proof is demanded for these marvelous transformations, we are informed that no proof is needed. There is a process in nature—evolution; there is a product of nature—man; and the existence of the product, man, can only be explained by the process, evolution. The fish, the reptile, the bird, and the ape are all the products of evolution. The ape is somewhat like the man in his bodily structure; therefore, reasoning from analogy, man is the product of evolution. And this conclusion must be accepted, for there is no other way to account for him, except on the hypothesis of evolution. When we divest the arguments of evolutionists of their suppositions the theory falls to the ground, for there is nothing to support it but these ingenious assumptions.

The inference that because certain forms of life have succeeded each other in geological time, they have been derived from each other is unwarranted. There is no

proof from mere succession in time. The incoming wave of the sea does not produce the outgoing wave, nor does the receding wave produce the next advancing wave, though they follow each other in rapid succession. The tides succeed each other, but the ebb tide does not produce the flood tide, nor the flood tide the ebb. There is a succession of day and night, but day does not cause night, nor night day, though they invariably follow each other. The same is true of the seasons. Winter is followed by spring, and spring by summer, and summer by fall, but one season does not cause another. The seasons, though they follow each other in endless succession, one season does not produce its successor. The cause that produces the tides, the succession of day and night, and the changes of the seasons is found in the sun and the solar system. The cause of these successive changes is found outside of the changes themselves, in a power that is above and independent of these phenomena. There have been successive epochs in geology, the Azoic, the Eozoic, the Silurian, the Devonian, the Carboniferous, the Mezozoic, the Cenozoic, the Quaternary, but one period is not the cause of another, though it may immediately succeed it. There is a succession in the development of the individual animal, the germ cell, the embryo, the infancy, the adolescence, the adulthood, but, strictly speaking, the one does not produce the other. The cause that produces these successive stages of development in the individual animal is life. There have been a succession of animals in geological time. The fish was succeeded by the reptile, the reptile by the bird, the bird by the quadruped, and the quadruped by man, but this succession in geological time proves nothing. The life of one geological period

has not been the outgrowth of the life of the preceding period. The animal species of one period have not evolved into the animal species of the following period. The cause that produced the various species in the succeeding epochs of the earth's development was external to, and above these forms of life themselves.

The apes, however nearly allied to man in his physical structure, can not be his ancestors. If they are related to him at all the relationship is extremely remote. The apes belong to the same order, but, according to the teachings of evolutionists themselves, they can not be the ancestors of man. For the apes, according to the evolutionary hypothesis, must themselves be the terminal ends of distinct lines of derivation from previous forms. The apes are a branch of the tree of life that has grown out from the main trunk, while man has continued to develop until he has reached the topmost branch of the tree. To change the figure, the other species after proceeding so far on the main line of the railroad of life were switched off on to a branch line. They diverged from the main line of development, and ceased to improve. The species from which man was developed kept on the main line of development, and reached the terminal at the head of the species. This species was the single exception to the rule. And, contrary to the usual method of reasoning, the rule proves the exception, instead of the exception proving the rule. But how did this supposititious man keep marching on his upward way, while all other species stood still, or became extinct? The reply to this question is that he was on the road, while all the other species were so unfortunate as to take a branch line. And they reached perfection when they attained such endowments

as fitted them for their mode of life. But this answer is a begging of the question. This exception looks very much like there must have been some higher power external to man that caused the difference between him and the other species. If evolution is a universal law, why is it that it has so signally failed in its operations with the great majority of the species? The law operates for a time, and brings the species to a certain degree of perfection, but is unable to do anything more for them. And we have as a result of this failure, all the lower species surviving, when they ought to have been fully developed into men, or have been long since exterminated. There ought to be but one species on the earth at the present time, if evolution is true. All the unfit should have perished long ago, and only the fittest should have survived. The theory of evolution, consequently, is inconsistent with itself.

FACTS AGAINST EVOLUTION

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"Every hypothesis is bound to explain, or, at any rate, not be inconsistent with, the whole of the facts which it professes to account for; and if there is a single one of these facts which can be shown to be inconsistent with (I do not merely mean inexplicable by, but contrary to) the hypothesis, the hypothesis falls to the ground,—it is worth nothing. One fact with which it is positively inconsistent is worth as much, and as powerful in negating the hypothesis, as five hundred. If I am right in thus defining the obligations of a hypothesis, Mr. Darwin, in order to place his views beyond the reach of all possible assault, ought to be able to demonstrate the possibility of developing from a particular stock by selective breeding, two forms which should either be unable to cross one with another, or whose cross-bred offspring should be infertile with one another. For, you see, if you have not done that you have not strictly fulfilled all the conditions of the problem; you have not shown that you can produce, by the cause assumed, all the phenomena you have in nature. . . . But has this been done? or what is really the state of the case? It is simply that, so far as we have gone yet with breeding, we have not produced from a common stock two breeds which are not more or less fertile with one another."—*Huxley*.

"Now in the actual *praxis* of apprehending the world, no one supposes that a being *a* can change without some principle of change and *ad infinitum*, so that at last it would become a *z* in which no recollection of *a* is any longer to be discovered. The sphere of change is universally found to be limited in such a way that any *a* changes only into *a*, *a*₁, *a*₂, . . . any *b* only into *β*, *β*₁, *β*₂, and in general, every real being changes only into such a 'closed series' of forms as, taken collectively, are deducible from the original nature of the being; while no being can ever pass out of the series of its own forms over into a series of forms belonging to another being."—*Lotze*.

FACTS AGAINST EVOLUTION

THEORIES must be brought face to face with the facts, and, if they are inconsistent with the facts, they must be rejected. A theory before it can be accepted as true must explain all the facts that are related to it, or that are in any way dependent upon it. Facts are such stubborn things that the most promising theories are powerless to overthrow them. It has been admitted by evolutionists that the failure of their theory to account for a single important fact is sufficient of itself to overthrow the hypothesis.

Darwin says: "If it could be demonstrated that any complex organ existed, which could not possibly be formed by numerous, successive, slight modifications, my theory would absolutely break down."*

Lyman Abbott, a theistic evolutionist, makes a like admission: "When science," he says, "seeks to formulate a law of life, it succeeds only in case the law provides for all the phenomena of life. If some of these phenomena are inconsistent with the supposed law, the supposed law does not exist."†

There are inexorable facts that array themselves against the hypothesis of evolution. There are a number of facts that are not merely inexplicable by the theory, but they are diametrically opposed to it. Evolutionists,

*The Origin of Species, Vol. I, p. 229.

†The Evolution of Christianity, p. 240.

however, persist in holding the theory, notwithstanding that it does not explain all the facts connected with the phenomena of nature. But as long as these facts are left without a satisfactory explanation, the hypothesis can not be regarded as the universal law of nature. We shall present here, not merely a single fact with which the theory is inconsistent, but a number for which it can give no satisfactory explanation, though it is admitted that one such fact is sufficient to discredit the hypothesis.

I. ITS FAR-REACHING ASSUMPTIONS.

The first fact against the theory to which your attention is called are the assumptions of evolutionists in order to establish their theory. They take for granted the universe in nebula and life in its simplest form. And in these phenomena they find the promise and potency of all things animate and inanimate. They contend that the existing earth and all the species that have inhabited it were evolved from these phenomena by the accumulating effects of innumerable small changes. If the universe was evolved from nebulous matter, the ultimate result must have been contained in the nebula. If the various forms of life were evolved from a primordial cell, they must have been contained in that cell. In the cause must be found the sufficient reason for all that flows from it. There can be evolved from nature only that which has been involved in nature. Evolutionists, to begin with, assume the efficient cause, the material cause, the process, and all the products. The efficient cause expresses the sufficient reason both for the results achieved and the means necessary for their achievement. The process de-

notes the method by which the efficient cause has transformed the material cause into the product. The product includes the collective results, that is, the universe, life, the species, man, the mind, and the history of the world. Evolution must not only account for the universe and life, but all the achievements of man of whatever nature—man with his empires, his intellectual achievements, his arts, his inventions, his ethical ideals, his laws, and his religions.

The hypothesis makes that first which of necessity must have originated subsequent to intelligence and creative power. Mind and final causes have preceded matter and life, but evolutionists make matter and material causes absolutely prior to intelligence and design in the order of the universe. Matter and energy must have been fully perfected before there could have been the beginnings of life. And matter and energy must have been arranged in such a manner as to prepare the earth to be the abode of life. Evolutionists reject these reasonable and necessary conclusions, and hold that in material atoms reside the promise and potency of all things. There is no conception more necessary to the theory of evolution than this potency, for without it the changes and continuity of the development would be impossible. This energy is the cause and its convertibility the form of all physical changes. The force is constant in quantity, indestructible, and persistent in essence, but infinitely varied in mode; and, though it is ever changing in form, yet it never ceases to be capable of further change.

This potency that resides in material atoms accounts for nascent life. Spencer states the position of evolutionists in the following language: "Every kind of being

is conceived as a product of modifications wrought by insensible gradations on a pre-existing kind of being; and this holds as fully of the supposed 'commencement of organic life,' as of all subsequent developments of organic life." Grant the existence of matter and energy, and the starting of motion at some definite time, and the present order might flow from these by the processes of evolution; providing that an adequate amount of force was supplied at the beginning, or was furnished from time to time as needed, in order to maintain the process of development. Grant life, in some simple form, with the necessary energy to keep up the vital functions, and all subsequent life might be accounted for by this theory.

The assumptions of evolutionists may appear to be insignificant, but they are unlimited in scope. They demand as a basis of their theory a universe of matter and energy, and further require that this mass of matter be set in motion. Given these as a starting point, they undertake to show how the forces of nature have marked the history of the universe. They teach that all the phenomena of nature are the result of purely mechanical causes. In nature, after the first animal form is brought into existence, there is a perpetual change that is marked by stages of increasing complexity and diversibility of being. Life attains a greater fullness and richness as it advances. The process of evolution is an ever ascending process from effect to differing effects. Every effect in its turn becomes a cause, and hence there is no cause but transmutation. There must have been a time when there was no effect to become a cause, no pre-existent being to modify an existent being, but it is claimed that the process operated just the same in the origin of life as it

does after the first organisms have been brought into existence. And, if this be true, it makes nothing modify something. But it may be that Spencer meant that eternal energy modified material atoms, and by this means the first organism was produced. Energy transforms the atoms of matter into the primordial cell, and this simple form evolves the next higher form, and this higher form the next higher form, until the present high state of development is reached. The energy is conceived to be persistent in its operations. And this persistency of energy includes both the indestructibility of matter and the absolute continuity of motion.

If the earth's life was developed from a primordial form, it follows that it must have been contained in this organism with sufficient energy to account for all the subsequent development through all the innumerable forms of life until the present high development was attained. We can get out of the primordial cell no more than was contained in it. There can be no evolution unless there has been an equal involution. If the universe was developed from nebulous matter, everything in the universe must have been present potentially in nebula, as the plant is potentially in the seed. Reason demands that in every instance the cause shall equal the effect it produces. Whatever may have been first in the universe must have contained all that has since been evolved from it. If inertia is a property of matter, the power to evolve life can not be. Spencer seems at times to have recognized how hazardous it was to argue that because there has been development after the origin of the first form, that this development originated matter and life. He saw the necessity of a power outside of, and independent of mat-

ter, hence he conceived this eternal energy as the source of all things. There must be a first cause, and this first cause must contain, potentially, all that has since been evolved. He held that the universe was brought into existence by an unconscious force which generated mind and consciousness. This eternal energy is the essential and determining factor of everything in the universe.

Spencer says: "The first tiny animal, no larger than a pin head, . . . is so slightly removed from inorganic matter that it must have required but a slight effort of nature to usher it into being from non-living matter, hence it is not an unreasonable supposition." But there is a spanless chasm separating living from non-living matter, however small the living atom may be conceived to be. It took the same infinite power to produce life in a minute form, that it did to create the most gigantic animal that ever trod the earth. Evolution takes for granted a living animal the size of a pin head. And this does not seem to be asking much, but it is the same old story of the camel's asking the privilege of putting his nose in out of the cold, the whole body quickly follows. It is not a tiny animal no longer than a pin head that is assumed, but all subsequent life as well. If the world's life was produced from a tiny form the size of a pin head, this first form must have contained in itself the life of the world with the power to produce it. In this tiny animal, according to the teaching of the system, lies all future life potentially, hence to assume it is to assume all the forms of life. And it would require as great power to produce this simple form as to produce all the forms of life at a given time, for they are all included in this form latently. The original potentialities of the system include all its

actualities. And for this reason there is no essential progress in the world's development according to the hypothesis of evolution. As simple as the supposition seems to be, when you come to examine into it carefully, it is a tremendous assumption. Why did it originate? What caused its origin? It is virtually the assumption of the creationists without an adequate cause to produce the creation. It is not only the tiny animal no larger than a pin head that is assumed, but the environment in which it lives, the energy to work out the results that have been achieved, the time sufficient to accomplish these results, and the far-reaching and diverse results themselves. If what was before life and mind was their cause, it must have been invested with the qualities to accomplish these results. If all animal life can be traced back to a single cell, out of which it developed in pursuance of certain laws of nature, then all life was contained in that germ cell. And, therefore, what evolutionists call the "lowest" organisms are in reality the "highest," if by highest we mean those forms that are most inclusive. Unless this is the case, evolutionists obtain more from this simple form than was contained in it. The thing is simply incredible that in this tiny animal was embodied the future life, mind, and history of the world. But this is what the theory of evolution requires us to believe, if we accept the hypothesis. Therefore, the assumption of an animal the size of a pin head is an unreasonable assumption.

The demands that evolution makes on the intelligence of mankind far surpass in magnitude the difficulties that may be involved in the hypothesis of special creation. It is claimed that if the first form no larger than a pin head

is granted, that the process of evolution will account for all the subsequent forms of life. But, even granting a first form, it does not follow that all subsequent development can be accounted for in this way. There must be sufficient energy supplied to keep this first form marching forward through the ages up to the present time and on into the future as long as the present order of things shall continue. But Spencer says: "We are able to conceive how organic compounds were endowed, and how by a continuance of the process, the nascent life displayed in these becomes gradually more pronounced." But the ability to conceive how a thing may have taken place is no evidence that it ever did transpire. All the organisms of the past, present, and future were potentially present in this first form of life. There must, therefore, have been stored up in this minute animal the pent-up forces of the ages. To this simple form is attributed infinite power, that it may create all other forms of life.

The assumption that this first living organism was the result of the laws of nature acting upon inorganic matter and combining its lifeless particles in such a way as to generate life, is to attribute to these laws the possession of life. For the laws of nature that could transform and shape lifeless matter in such a way as to produce a living being must possess life, for nothing can impart that which it does not possess, unless there can be an effect without an adequate cause. The powers that are assumed for the laws of nature involve the very idea which we understand by the personal attributes of an all-wise, omnipotent, omnipresent Creator. The forces of nature are conceived to accomplish all that special creationists contend was accomplished by the Almighty. And

the assumption that a single organic being was evolved out of inorganic matter by an eternal energy is the equivalent of a direct personal act of an intelligent creative will. In attributing the origin of life to the operations of the eternal laws of nature, nature is converted into a personal God, having all the powers of the Almighty Creator.

The claim that there is an eternal energy back of nature, unknown and unknowable, is a begging of the whole question at issue. It takes the precise grounds of the creationists, while denying the existence of a personal Creator. The potency, the energy, the unknown power, whatever it may be designated, is the correlative of the Creator in the theory of special creation. The assumption of a first form by evolutionists is identical with the assumption of a Supreme First Cause by creationists. There is no proof attempted for this first form by evolutionists. It is purely a creature of their imagination. In the assumption of the existence of Almighty God, in order to account for creation, there is assumed an adequate cause for all the works of creation. But evolutionists have nothing whatever that will enable them to account for the organic and inorganic world except as they encroach on the hypothesis of special creation. Creation was not a completed act when the earth and life were spoken into existence, but it has rather been a continuous process aided by new impulses given to it at stated intervals. God supervises his works and directs the forces of nature continuously, and, if he were to cease to act, life would perish from the earth and the universe would cease to be. The evolutionists assume more than the creationists. If evolution is true, there must be in the first form the promise and potency of all subsequent life.

But according to special creation, God exercises a continuous supervision, and holds nature, animate and inanimate, in the hollow of his hand.

II. THE FACT THAT THERE ARE CERTAIN BREAKS IN THE PROCESS OF DEVELOPMENT IS INCONSISTENT WITH THE THEORY.

If evolution is a continuous progressive change, there can be no breaks in the process. The theory requires an unbroken continuity in the progress of the development. An unbroken continuity and a continuous progressive change are a contradiction of terms, but the advocates of evolution fail to recognize the absurdity in their theory as they have defined it. Darwin sets forth the position held by all evolutionists in regard to the impossibility of there being any breaks or sudden leaps in the process of development. He says: "Why should not nature take a sudden leap from structure to structure? On the theory of natural selection, we can clearly understand why she should not; for natural selection acts only by taking advantage of slight successive variations. She can never take a great and sudden leap, but must advance by short and sure, though slow steps."* But there are quite a number of sudden leaps, however, that nature must have taken in order to bring about the high state of development that exists at the present time. There are a number of breaks in the chain of development for which the theory of evolution can give no satisfactory explanation.

(1) There is a break between matter in the gaseous

*The Origin of Species, Vol. I, p. 244.

state and matter as it now exists. It is possible that in the primitive nebulous condition of the earth that there were fewer elements in existence than there are in the present high state of the earth's development. It is possible that our globe, when it began its existence as vaporous mist, was composed of only a few chemical elements such as oxygen and hydrogen. And from these few simple elements all the other elements were formed. The change of one simple substance into another element requires a miracle. It implies the destruction of the old and the creation of the new element. And between the old and the new there would be a sudden leap for which evolution can not account. There must have been a series of leaps from the few chemical elements in the beginning to the nearly eighty elements that exist at the present time.

The science of chemistry teaches that matter is of different kinds, and that one element can not be converted into another unless it has an affinity for the other element. There are elements that can be combined, and form combinations that are more or less stable. There are other elements that have a horror for each other, and it is an impossibility for them to be combined. All the matter now composing the earth was once in a gaseous state. Granting that all the chemical elements existed in a diffused condition in nebulous matter, at some definite time in the world's history they were combined in their present order. Chemical affinity may possibly account for the present order. But if the elements were once widely diffused in space, the innumerable changes and combinations that have since taken place have been by sudden leaps. Between diffusion in nebulous matter and co-

hesion in the present chemical order there is a break that violates the fundamental principles of evolution. If all the chemical elements had a common origin in one or more simple elements, they have in some miraculous way been broken up into different elements. On the other hand, if they were all diffused in gaseous matter, they have been combined into chemical substances by sudden leaps. There have been breaks, no matter how the present chemical order is accounted for by scientists.

(2) There is a break between the living and the non-living. It is necessary for evolutionists to make a sudden leap from non-living matter to living matter. They seek to make this marvelous change an insignificant thing by assuming the first form of life to be microscopic in size. They leap with ease the boundary which divides the organic from the inorganic, and find in matter the promise and potency of every form of life. The difference between the organic and the inorganic is most decisively marked. There is a great gulf fixed between the living and the non-living. And this leap from inanimate matter to animate matter is beyond the knowledge of science. A miracle must have occurred once, at least, when life was introduced upon the earth. As long as the contrast in nature between the organic and the inorganic—the living and the non-living—holds good, there can be no spanning the chasm between them without a miracle. There is an impassable gulf between the mineral and the plant that can not be crossed except by sudden leap.

(3) There is a break between vegetable and animal life. The earth was first fitted to sustain plant life, which was necessary in order to maintain animal life. The science of geology reveals the fact that plant life was prior

to that of animal life. And in the course of the development when vegetable life ceased to be vegetable and became animal, there was a break—a sudden leap—in the process of evolution. And this is not, by any means, an insignificant leap. The fact may be pointed out that it is difficult to distinguish between some low forms of animal and vegetable life, as an evidence that the transition between them would not be difficult; but there is a total difference in the nature of the two kinds of life, and it would be an impossibility to pass from the one to the other without a sudden leap.

(4) There is a break in the development of the sexes. All the first animal forms are conceived as being unisexual. And, if the claims of evolutionists are well founded, when the unisexual animal became bisexual, there must have been a sudden leap in the development. For we can not conceive how reproduction could have been continued unless the change from the one to the other was sudden. The unisexual animal could not perform the function of reproduction and pass gradually into the bisexual animal. There must have been a definite time when the unisexual became bisexual. And this was brought about by an “ineffable cleavage”—a sudden leap.

(5) There is a break between life and consciousness. Between animal life in its lowest form and animal consciousness there is a break for which evolution fails to account. There was a time in the development of the animal when the insensate animal became sensate. The animal passed at some definite time from its lowest form without sensation into a being conscious of feeling and sensation. And the change from an insensate into a sensate animal was a sudden leap.

(6) There is a break between animal consciousness and the self-consciousness of man. The continuity between molecular processes and the phenomena of self-consciousness is a rock on which evolutionists have divided. There have been some that have accepted the theory of evolution up to this point, but have contended that there must have been a miracle performed here to account for human self-consciousness. In the origin of self-consciousness we have a problem that lies outside of the mechanical aspects of nature. Energy and self-consciousness are entirely unlike; there is no resemblance between them. Evolutionists contend that their hypothesis will solve all the problems of life, yet they are forced to admit their ignorance of how man acquired his higher faculties. Huxley says: "I know nothing, and never hope to know anything of the steps by which the passage from molecular movement to states of consciousness is effected." It is inconceivable that purely materialistic causes could have produced such results as are found in the mental and moral constitution of man. The break between animal consciousness and the self-consciousness in man is absolute. There is a chasm here as wide as that between living and non-living matter. And this spanless chasm must have been crossed by a sudden leap.

III. THE THEORY FAILS TO ACCOUNT FOR USELESS ORGANS.

It is one of the fundamental principles of the theory of evolution that advance must be made by infinitesimal changes. Marked changes can not be maintained, if any such were to occur. Any complex organ that exists, that

could not have been formed by numerous small successive modifications, is fatal to the theory. There are certain organs that are useless until they are fully developed. The use of an organ might account for its modification, but not for its origin because it can not be used until it is formed. The origin of the bird's wing can not be accounted for by the theory of evolution. The wing before it was fully developed would be a useless appendix. It would require extra nutriment as well as strength to carry it about, and it would be utterly useless, for a half wing could not aid in flight. If evolution can not induce a single variation, much less a whole organ, and can only preserve the slight variations that are beneficial; the wing of the bird must have originated at once and completely developed by some miraculous method, such as special creation requires. The undeveloped wing would not be beneficial, but it would be a hindrance. And it would be lost by the law of the survival of the fittest, for nothing can be retained, according to the theory, that is not profitable.

The eye is another complicated organ that can not be satisfactorily accounted for by this theory. Evolutionists claim to be able to conceive how the eye could have been formed by the action of light upon a nerve, but just because they can conceive that which is favorable to their theory is no proof that the eye was formed in this way. We confess our inability to conceive how this complicated organ with its contrivance for adjusting the focus to different distances, for admitting different amounts of light, for correcting spherical and chromatic aberration, with all its rods, and cones, and lenses, could

have been formed from a layer of transparent tissue and a nerve sensitive to the light. The eye must have come into perfection at once, otherwise it could not be used for the purpose of seeing. How the eye could be in the least beneficial before it was fully developed, is beyond comprehension. The eye is a masterpiece of mechanism. As a self-adjusting instrument it is superior to any invention of man, such as the microscope, the telescope, or the photographer's camera. The eye with its transparent layers filled with fluid, with its self-adjustment, and with its nerve sensitive to light, is the most delicate and perfect instrument known to man. And it is impossible that this delicate and complicated piece of mechanism could have been developed by infinitesimal changes guided by blind chance. It bears upon every part of it the stamp of design, and the evidence that it originated at once as the product of a creative mind.

The hypothesis of evolution is utterly insufficient to explain the incipient, infinitesimal beginnings of structures which are of utility only when fully developed. The eye is an organ that could not have been developed by natural selection, or, for that matter, by any method of evolution. It is not any wonder therefore that Darwin said that the eye made the cold chills run over him, it was too much for his philosophy. Here, then, are two complicated organs, the wing of the bird and the eye, that could not have been evolved by slow degrees of change. The belief that they were developed by evolution is enough to stagger the most credulous. They must have been introduced at once and in their full perfection, which would require a miracle. These complex organs

manifestly were not developed gradually. They are inconsistent with the supposed law of evolution, and, hence, the theory utterly breaks down here.

IV. THE FACT OF THE INSUFFICIENCY OF TIME IS FATAL TO THE THEORY.

The theory of evolution requires an inconceivable lapse of time, oceans of time, unlimited time. Man, the final product of evolution, is represented as the outcome of incalculable antecedent time. Haeckel affirms that a hundred million years is not sufficient for the process of natural selection to accomplish its work. Evolutionists make time do everything. Time accomplishes the work of intelligence; time, in the theory, is the cause that takes the place of the first great cause. The time, however, allowed by geologists for the formation of the earth and its subsequent history, granting the extreme limit of time, one hundred million of years, is far too short for the development of man according to the hypothesis of evolution. If the commencement of life was coeval with the formation of the fossiliferous rocks, it is entirely too limited for the species to have been developed into their present high state of perfection. For the insignificant amount of change that has taken place in any group of animals is far too small for the hypothesis that all living forms are the result of a process necessary to progressive development entirely confined within the limits of time represented by geological formations. A conservative estimate of the age of the world, based on recent investigations of scientists, does not exceed thirty

million years; a period of time entirely insufficient for evolution to produce the inorganic and the organic world.

V. THE FACTS RELATED TO CERTAIN TYPES OF LIFE ARE
IRRECONCILABLE WITH THE THEORY OF EVOLUTION.

(1) The fact of the "persistent types of life" is against the theory.

The theory requires not only a continuous progress, but the destruction of the old forms of life as the new are produced. But, notwithstanding the absolute necessity of the destruction of the old forms, they have by no means all disappeared at the advent of the new. The facts relating to various types of life clearly show that the law of evolution is not world-wide in its operations. Its advocates claim that it is as well established as the law of gravitation, but gravitation operates everywhere and under all circumstances. There are certain conditions under which evolution is inoperative. Some forms of plants and animals reached their highest development untold ages ago, and, without advancing in any material respect, continue to exist up to the present time.

These are called the "persistent types of life." They are numerous and of great variety. Some of them originated in the remotest geological ages, and some of them belong to less remote periods. Among these numerous types are lingula flags, crinoids, sponges, oysters, scorpions, corals, star-fish, horseshoe-crabs, sea-urchins, gar-pike, sturgeons, and a species of shark. All these types of life have come down to our times through numberless ages almost without a single change. Some of them have not undergone a single perceptible change during

their entire career. The extreme permanency of these forms of life, which have continued to propagate themselves through vast changes of environment and almost innumerable ages of time without material change, and their apparent fixity in their final forms, prove beyond a doubt that no law of universal evolution exists. It is only a begging of the question to claim that these forms have reached their highest attainments—that in the process of evolution they have reached their destination—and have ceased to advance. These species have survived in spite of natural selection and the survival of the fittest. Here the law of progress and continuity breaks down. Contrary to the often-repeated assertions of evolutionists, the development has not all been upward and onward. These forms have been stereotyped, and left unchanged through countless ages. Evolution is therefore not a universal law.

(2) The fact of the reversion of type is against the theory.

There are retrograde movements in both plants and animals that are diametrically opposed to the teachings of evolution. Certain types of life under favorable conditions have a strong tendency to revert to the original type. After the most careful cultivation of a species by artificial selection for generations, the law of reversion of type asserts itself, and the original type is reproduced. It is necessary for the breeder continually to cull from his stock the animals that fall below the standard in color and form. The conditions under artificial selection are much more favorable than they ever could have been under natural selection. After long years of careful cultivation by artificial selection, a highly developed variety

of a species may be produced, but, in spite of all the most intelligent and experienced breeder can do to prevent reversion, there will appear stripes, colors, and defective forms that belong to the original type. Pigeons, for example, have been bred for centuries under careful selection, yet they show a constant tendency to revert to the primitive rock pigeon. There occasionally appear in all the breeds black bars on the wings and tail feathers. And these markings are characteristic of the parent rock pigeons from which they were all developed.

In the human family children are born that bear no resemblance to their parents, nor to their grandparents, but revert to some remote ancestor. A defect such as a hair lip that appears in one generation, though it miss a generation or two, is sure to reappear in some succeeding generation.

All our domestic varieties, when allowed to run wild, gradually but invariably revert to the original stock. If evolution is true, after a well-marked variety is produced, it should make constant improvement until the highest possible development is reached. And if the law of evolution is the supreme law of nature, when a variety has reached this high state of development, it should constantly reproduce itself instead of reverting to the original type. If after untold ages of development of the species, there is this constant tendency to reversion to the primitive type, there must have been still greater tendency to revert in the beginning than there is at the present when the species have become more stable. Recognizing the strength of this tendency to revert at the present stage of development, we are thoroughly convinced that at an earlier stage of the development, presupposed

by the hypothesis of evolution, that it would have precluded the possibility of the development of the species under nature by the process of evolution.

(3) The fact of the unity of type is against the theory.

Geological history furnishes no evidence that one species was ever changed into another species. In the earliest ages species are as sharply defined as in the highest development of the present advanced age. The hypothesis of evolution has no foundation in fact, for no one has ever witnessed the evolution of a species. It is true that there can be crosses made between closely related species, but a hybrid is invariably produced. There is a limit to the variability of species by selective breeding. Evolutionists have failed to produce out of the existing order a single new species. Through numberless gradations the species are separated by impassable barriers. Beyond a certain limit they can not propagate their kind. We find each species transmitting to its offspring the natural characteristics of its own species, and never the characteristics belonging to another species. And no such change can be brought about because the characteristics of the species become more marked as it is developed. The development of the cat is toward felinity, the development of the dog is toward caninity, and the development of the ape is toward simianity.

The species present a series of lines not converging as if they pointed to some common progenitor, but strictly parallel to each other, indicating an independent origin. Distinct species never differ from each other in single characteristics, but in many distinct parts. If they have been developed from one another, many parts have been modified at the same time, which is contrary to the re-

quirements of the theory. No example has ever been found where one species has been changed into another to the extent of assuming the characteristics of a new species. Species are unchanging units. The hypothesis of evolution must account for the unity of type, under which law no distinct species of animal ever produces any type but its own. Whatever species you consider in geological history, you find that it has either become extinct, or it continues to propagate its same type of animal with only such slight variations as naturally result from change of environment. There never has been in the history of the world an animal of a distinct species evolved out of a fundamentally different species. This is a decree of nature that brooks no violation. Thus far and no farther shalt thou go. There is a barrier between species now that can not be crossed, and we have no knowledge that would justify the belief that it has even been crossed in geological time. We no more gather grapes from thorns and figs from thistles in the animal kingdom than we do in the vegetable. Granting that there has been modification and improvement in varieties, yet there has been no radical change from one distinct species into another. Before the truth of evolution can be established, it will be necessary to produce by selective breeding two distinct species from the same stock so different from each other that a cross between them will produce a hybrid, or they must produce a species of hybrids that are fertile. Evolutionists have allowed their imagination to run away with their better judgment, and have assumed that their theory was true because they could conceive how the process of developing one species from another might have taken place by gradual and infinitesimal variations.

If the question of the sufficiency of time is raised, we reply that history furnishes us with a reasonable length of time in which man has had to do with the breeding of animals, and there is no record of an animal being produced under domestication which can be said to belong to a species different from its immediate known progenitors. There is no change in the animals that were under domestication in Egypt between four and five thousand years ago. And the fact of the unity of type utterly overthrows the doctrine of evolution that the individual animal changes by selection, and that these slight changes that are acquired in this way are transmitted to his offspring until these infinitesimal changes evolve an entirely distinct animal species. The unity of type establishes the fact that the required changes, according to the evolutionary hypothesis have never occurred, and shows still further that it is an impossibility for them ever to take place. The laws that govern these distinct kinds of types are in direct violation of the fundamental principles of the hypothesis of evolution. These facts are utterly inconsistent with the theory, and, according to the admission of its own advocates, it falls to the ground.

VI. THE FACT OF DEGENERATION IS AGAINST THE THEORY.

There is no standstill in nature. As soon as the individual animal or the species of animals cease to advance they begin to retrograde. The domestic animals, when allowed to run wild, gradually loose their acquired characteristics, and invariably degenerate until they reach the aboriginal stock from which they were developed. While Darwin admits the fact of this degeneration to the orig-

inal stock, yet he seeks to evade its force by begging the question. He claims that we have no means of knowing what the aboriginal stock was from which the species that have degenerated were developed, hence, we can not be certain whether they have degenerated into the primitive stock or not. We know that the highly developed varieties that have been produced under domestication by artificial selection retrograde into the common stock with which the development was begun. The highly developed varieties of the tame pigeon, when placed under natural conditions, degenerate into the common rock pigeon. The highly cultivated flower, if wholly neglected, degenerates into the wild flower. We do not know, of course, what was back of these common types, except as we find their remains in the fossil rocks. But the law of the unity of type holds good of degeneration as well as of development, and no new species can be brought into existence out of another by the operations of the law of degeneration. There is therefore not a shadow of doubt but what a species that has been developed by artificial selection, when it degenerates goes back to the aboriginal stock. But this fact is fatal to evolution, for, if man was developed from the ape, in his extreme degeneration he would retrograde until he had reached back to the ape. Man degenerates into a savage, but shows not the slightest trace of the brute.

Many so-called species that are regarded as having been developed from some common species, have been produced, not by development, but by retrogression from a higher organized variety into a lower variety of the same species. There is in the constitution of the animal species no innate tendency to evolution, but there is in every

species an innate tendency toward degeneration and extinction. Some forms degenerate and live under new conditions, but they are the same except for their degeneration. There is abundant proof of the successive degeneration of structure in nature—a passing from a higher animal into a lower form of the same animal. Animals that formerly had higher powers have lost them by degeneration. The whale and the seal finding food easier to secure and more abundant in the sea took to the water, and gradually lost their means of locomotion on land. Birds that once had the power of flight can no longer fly. But evolutionists have, without the least hesitancy, claimed that these degenerated forms were the result of the process of evolution. A bird that has lived in the air finds it easier to procure food in the water, and takes up that mode of life. It gradually loses its power of flight, and becomes adapted to its new mode of life. And evolutionists adduce this as a proof of evolution, but it is a degeneration. Species of animals that once lived above ground have burrowed under the earth, and their aerial organs have become completely changed to fit underground conditions, and this is called an evolution.* But instead of its being an evolution it is a degeneration, for these aerial organs will not again resume aerial functions.

The argument for evolution, based on the distribution of the species to countries and climates adapted to their peculiar mode of life is not well founded. The fact that these species are adapted to their surroundings is an evidence of degeneration rather than a proof of evolution. They have adapted themselves to new and changed con-

*Principles of Biology.—Spencer.

ditions by a dwarfing, or deterioration of the species. In this way species become modified under new conditions so as to adapt themselves to their environment. The whale adapts itself to the sea, the bird to the water, the mole to underground life, but this is always by a process of degeneration. But evolutionists, with their usual lack of discrimination, regard this as an evidence of evolution, in spite of the fact that these species once occupied a higher place in the scale of being than they do at present.

The law of degeneration has been at work among the nations of the earth. Its effects are seen among men as well as the lower animals. We see about us individuals that once moved in the best society and enjoyed all the luxuries that wealth could furnish degenerate into common tramps, who beg their bread from door to door. Nations that once stood at the head of civilization have become what are called decaying nations. Still other nations that once flourished as world powers, have become extinct, and we find in the ruins of their ancient cities evidence that there once dwelt, where these ruins stand, powerful peoples. If evolution is true, why is it that these nations that once enjoyed the highest degree of civilization have fallen into decay? Why are Babylon, Nineveh, Egypt, Greece, and Rome no more? If the theory of evolution is the universal law it is claimed to be, there is no reason that can be given for their downfall. These great nations are imposing and solemn monuments of national degeneracy. It would seem that these nations were the fittest to survive, but they all fell into decay. They were overcome by cruder peoples, who took their place, and in their turn became great nations.

Degeneration is not sporadic and local in its opera-

tions, but is what may be called a universal law. It is more far-reaching in its operations than evolution. Downward movements, decay, and death are everywhere manifest in nature. There is nothing that escapes the destructive power of degeneration. All animate things when they have reached the perfection of their powers seem to pause a little while in the enjoyment of their mature powers, then begin to decay, and soon pass away. And many individual forms of life never even reach the maturity of their powers, but wither, waste away, and die. And what is true of the animate is true also of the inanimate. There are in the heavens above us dead and dying worlds without number, and in the ages to come there will be a time, no doubt, when all the worlds we know shall have come under the destructive, disintegrating influence of the law of degeneration, and the universe shall be no more. There are a hundred facts in nature to prove a degeneration where there is a single fact to prove an evolution. If the theory of evolution is true, there should be universal development instead of universal degeneration. And when anything has been developed, it should retain its new form instead of losing it so soon.

VII. THE FACT OF THE MISSING LINK IS AGAINST THE HYPOTHESIS.

No satisfactory example of the almost infinitely alleged connecting links, which must have occurred in a gradual development, can be found. Other species can be traced in fossil rocks, but there can not be found a single connecting link to bind the species together. Every

fossil type necessary to establish a lower human origin is wanting. There is a break in the organic chain that can not be bridged over. Evolutionists have built up the arch of development into gigantic proportions in their efforts to span the chasm between the species, but the keystone is missing. If man was developed from the ape, his ancestor must have existed in semi-human form, but no such forerunner of man has even been discovered. When we take into consideration the fact that there are so many species of ape and so many races of men, it seems strange that no trace of the mediator between man and the apes has yet been discovered. In tracing the animal species back in geological time, we find that they invariably end without any link of connection with previous species, and under circumstances that render any such connection extremely improbable. Evolutionists have searched with a diligence worthy a better cause for this supposed organism that makes us one with the underworld—for the missing link that binds us to the beast. But they have utterly failed to find the object of their search. The missing link has been reported found quite frequently. Evolutionists have cried Eureka! Eureka! and have announced their discovery to the world with flying banners. But, alas! the missing link is still missing.

The latest connecting link, perhaps, that has been discovered, was that which connects the horse with the smaller and lower animals. The discovery was made by Professor Marsh, of Yale University, and the text-books on geology record it in all seriousness. The history of the development of the horse, it is claimed, is just what could have been predicted from the knowledge of the principles of evolution. The earliest known horse is

found in the deposits of the Eocene period. It was an animal about the size of a fox, and had four toes and a rudiment in front, and three toes on its hind feet. This animal is called Eohippus. The next stage of the development is found in Orohippus, from the later Eocene, in which the rudimentary toe has disappeared. Orohippus developed into Mesohippus, the Miocene horse, which is larger and shows the fourth toe in rudimentary condition. Mesohippus was evolved into Miohippus of the same period, an animal with three toes. The Miohippus developed into the Protohippus of the Pliocene, in which the side toes were shortening. The Protohippus developed later in this period into the Pliohippus, an animal with a hoof approaching more nearly that of the horse. And finally the Pliohippus evolved into the Equus, the full-fledged horse of the post-Tertiary period.

Evolution is set forth as a progressive change, and it is claimed that it is invariably a development from the simple to the complex, from the ill-defined to the well-defined. But, if this is a true history of the development of the horse, it violates every principle of evolution. This is not the development of a lower animal into a higher, but is the development of a complex animal with four toes through a three-toed animal into a one-toed animal. And this is not true to theory. It is the development of a highly organized animal into a lowly organized animal. It is manifestly a survival of the unfit instead of the fittest. In evolution there can be no sudden leaps. The continuity, according to the theory, is unbroken. But here are a series of sudden leaps. There is a leap from a four-toed animal to a three-toed, and from a three-toed to a one-toed. This is not a progressive change by slow

degrees of advance, but is rather a series of miraculous changes. They begin with an animal the size of a fox, when, to be consistent, they should begin with an animal no larger, surely, than a new-born mouse. And, to make out a case, it should be shown that this animal was gradually evolved by infinitesimal changes through thousands of years of development up to the horse. The evolutionists it seems, in their anxiety to make out a case, have forged a chain of derivation by putting together arbitrarily such links as seemed to help out the derivation. But these links are taken from the deposits of different periods, and are widely separated in time and place. And these links are marshaled as the predecessors of the American horse, but unfortunately for the theory of evolution, as a result of this long series of developments, the horse native to this country became extinct. And the horses we have were imported from Europe, where evolutionists have developed the horse much in the same way they have in this country, but by a different series and from a different animal. The horse has had almost too many ancestors for the best interests of the theory in whose behalf he has been employed.

We are informed that the reason the missing link has not been discovered is because of the extreme imperfection of the geological records. All the evidence that has been discovered is against evolution, but we are told that we must accept the hypothesis as an established fact, for, if the records were more perfect, it would be shown to be true. When the extreme length of time—a hundred million years—that is assumed by evolutionists in order to work out their theory, is taken into consideration, it will be seen that there are an infinite number of links

missing from the chain of derivation. It is contended that these links did once exist, because the analogies warrant the assumption that they did exist. They reason from the known to the unknown. They supply by general reasoning connecting links of the existence of which they have no proof. And it is even asserted that to one who thoroughly believes in the theory from general reasoning, the absence of these links does not amount to anything. But whenever a theory requires this kind of reasoning, in order to establish important links in the chain of proof, it completely discredits the theory. This method of accounting for the origin of man, by tracing his organism through a long series of animal forms to the lowest and simplest forms of animal life, necessarily supposes an unbroken connection of lives with lives back through the whole series. And this connection must be proved beyond a reasonable doubt, otherwise the argument utterly fails. It is said that analogies show that transitional forms must have existed, and from the possibility of their existence, and from the assumption that they did exist, it is argued that the higher forms of life were evolved out of the lower by a gradual succession. The main hypothesis is not drawn from a completed chain of established facts, but is helped out by inferring from established facts other facts that have no actual existence. The theory of evolution is a deduction from a great number of complex facts, but there is no proof that they make a complete chain of evidence. Link after link in the chain of evidence is wanting, and the breaks have to be filled up with imaginary transitional forms. The breaks in the organic chain of man's development are admitted to be of frequent occurrence in all parts of the series. No

remains whatever of transitional forms have been found in fossil rocks. Abundant examples of other fossil animals can be found, and it is remarkably strange, if any of these supposed intermediate forms ever existed, that no trace of them has been discovered.*

The fundamental error that underlies all the reasoning of the evolutionists is that of assuming from metaphysical abstractions things to be true—to have had an existence—which, though deductively true, are in reality concretely false. The theory is not substantiated by the facts, but facts are assumed to meet the requirements of the theory. The method of argument is to assert the probability of a fact, then without proof, place that assumed fact in a chain of evidence from which the truth of the theory is to be inferred. In this way the preconceived theory has influenced to a great extent the array of proof by which it is sought to be established. These assumptions mark the arguments of the evolutionists from the beginning to the end of the discussion. Sweeping deductions are made from a limited number of facts, and, moreover, many of these so-called facts are the creatures of an overwrought imagination. The lack of positive proof from the absence of needed facts in the chain of evidence is frankly acknowledged, and the force of the admission is evaded by the lame claim that they must have existed, and that they will be found some time when a complete geological record is secured. They are not in the least deterred from drawing conclusions from a chain of reasoning from which necessary intermediate links are wanting. They assume the existence of these links, place them

*Creation or Evolution.—Curtis.

in a chain of evidence, and arrive at the same conclusions as if they did actually exist. The difficulty with this kind of reasoning is that it borrows from the main hypothesis which is to be established the means of proving the facts from which the hypothesis is to be drawn as an inference. Evolutionists, therefore, not only assume the truth of their premises, but they also assume the truth of the proof by which they seek to establish these premises, which is entirely unwarranted. The absence of these links in the chain of proof makes evolution weakest where it should be the strongest.

If theologians had attempted to establish the Christian religion by the same method of reasoning that evolutionists have employed, in order to substantiate their theory, they would have been held up to the world as a set of imbeciles. Suppose, for example, that they had undertaken to prove the resurrection of Christ, the most vital doctrine of Christianity, by a similar method of argument. They set forth the facts in the life of Christ, his miraculous birth, his spotless character, his exalted teaching, his power to raise the dead, and his promise that he himself would rise from the dead on the third day. But suppose there was missing from the chain of evidence the fact that he did actually rise from the dead. And the account that is given in the four gospels of the events that transpired on the resurrection morning was missing. All these facts were passed over in silence by his disciples. And, in spite of this omission, we were told that he did rise from the dead, because he had power to raise the dead, and because he had promised to raise himself from the dead. And it is claimed that his resurrection must be accepted as an actual fact, for his character was

such that he would not promise to do anything unless he could fulfill it. And in this way the conclusion is reached that Christ rose from the dead on the third day. The claim is set up that the resurrection is an established fact, and that, if we had a complete record of the events that took place at the tomb that Easter morning, it could be proven that he did actually come back to life. It is admitted that he was never seen in the flesh after his death—that an important link in the chain of proof is wanting—but the analogies warrant the conclusion, therefore his resurrection is established. The reasoning is from the known facts to the unknown. And the breaks in the chain of proof are bridged over by borrowing from the main hypothesis of the resurrection. It is needless to say that theologians would have been laughed to scorn had they attempted to substantiate the doctrines of the Christian religion by any such a line of argument from which one important link was missing. But men who pose as scientists have in all seriousness attempted to establish the hypothesis of evolution by just such a defective chain of argument. And in the case of evolution not only one important link is missing, but there is not a single link of the untold millions that are required to connect the different species with each other in their supposed development from the lowest forms up to man the crowning glory of the process.

Does this array of facts which have been presented, that are diametrically opposed to evolution, disprove the theory? If we accept the admissions of the ablest advocates of evolution, the hypothesis utterly breaks down; for there is not only one important fact that is contrary to the theory, but there are many and varied facts for

which it can give no satisfactory explanation. We call the reader's attention to the fact again that we have not undertaken the task of disproving the theory, and do not therefore claim to have disproved it. But if these facts that are inconsistent with the theory do not disprove it, they show that it is a highly improbable hypothesis. And it must be admitted by every candid reader that the facts in hand are not yet sufficient to warrant an overweening confidence in the hypothesis of evolution.

Part II

REVOLUTION

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"Every form, whether of society, or government, or of the Church, ought to change, by yielding quietly to the pressure of the growing spirit; otherwise, the pressure increasing, the petrified shell is violently burst, and cast off by *revolution*."—*Le Conte*.

"It is easy to destroy; it is difficult to reconstruct. Nor is there any human force which can arrest a national conflagration when once it is kindled: only on its ashes can a new structure arise, and this only after long and laborious efforts and humiliating disappointments."—*Lord*.

"Religion is so essential to man that he can not escape from it. It besets him, penetrates, holds him even against his will. The proof of its necessity is the spontaneity of its existence. It comes into being without any man willing it, or any man making it; and as it began so it continues. . . . Men bear its institutions while they believe its truth; and no social or political revolution is possible anywhere save by those who have revolted from the beliefs on which the society or the State has been constructed."—*Fairbairn*.

"Every man is a cause, a country, and an age; requires infinite spaces and numbers and time to accomplish his thought;—and posterity seem to follow his steps as a procession. A man Cæsar is born, and for ages after we have a Roman Empire. Christ is born, and millions of minds so grow and cleave to His genius, that He is confounded with virtue and the possible of man. An institution is the lengthened shadow of one man; as the Reformation, of Luther; Quakerism, of Fox; Methodism, of Wesley; Abolition, of Clarkson. Scipio, Milton called 'the height of Rome;' and all history resolves itself very easily into the biography of a few stout and earnest persons."—*Emerson*.

REVOLUTION

MAN dwells upon the earth, and he must have been brought into existence by some power that will account for him with all his endowments. If he was not evolved from the lower animals by the law of evolution, how came the human race upon the earth? We answer this question by affirming that man originated by a law that operates in a manner just the reverse of the process of evolution. We have called this the Law of Revolution. And by revolution we mean such a sudden, radical change, or appearance in full perfection of powers, as would have taken place in the production of the universe, the species, and man, if they had originated by the special creative acts of the immanent God. Evolution is characterized by the slowness of the process of change which requires endless years of time to bring nature into the present high state of perfection. But revolution is characterized by its velocity and rapidity of change, and brings at once into a high state of perfection that which it produces.

The law of revolution, as it has operated in nature, is illustrated by the political changes that have taken place in human governments and by the religious reformations that have occurred in the Christian Church. The present high state of civilization among the nations of the earth is the result of past revolutions. Crises have come in the life of every nation, when some great political

change has suddenly taken place; and, when we look beneath the surface, we learn that the new order has invariably been brought about by the uprising of the people after they have been long oppressed by tyrannical rulers. The people, after enduring the oppression by these corrupt rulers for long weary years, have at length arisen in their majesty, and the old oppressive systems of government have been compelled to give place to larger thought and to greater freedom. The universal testimony of history is that every great advance in civilization and upward march of the race had its beginnings in a revolution, and was not brought about by the gradual processes of evolution.

It has been confidently asserted that the progress of society has always been by a long series of consecutive evolutions. And it is also claimed to be a recognized truth, that "constitutions are not made, but grow." But that social institutions and political constitutions are not made, but grow, is a dogmatic statement; and is by no means true, no matter how plausible it may sound. We do not deny that there is a development in society and a growth in constitutions, yet we contend that they always have their origin in revolution. We desire to impress upon the mind of the reader that it is the origin of things that we are discussing, and not their after-development. Political constitutions have originated, and then are shaped and developed as the nations progress, but they have their origin in revolutions. Revolution blasts out the large masses of rock for the purpose of building constitutions, and evolution chisels them into shape and lays them in place in the walls of state. But revolutions, by which constitutions originate, become a deflecting in-

fluence, whose operations widen with the course of time, and, for this reason, changes that have had their origin in revolution, have often been attributed to evolution.

If the theory of evolution were true, the changes in the form of government should always take place by gradually yielding to the growing spirit of progress, but in the actual history of the political progress of the nations the pressure of misrule and tyranny has increased until the petrified shell of oppression and despotism has at length been violently burst and cast off by revolution. And such is the strength of conservatism that when a form of government is once established, it seems that it is impossible for it to be gradually changed, or greatly modified, except by a choice that amounts to a revolution. And even after a new form of government has been established, the old conservative element in the nation at the first favorable opportunity arises and attempts to crush out the new ideas that have gained the ascendancy through the revolution and undertakes to re-establish the old order of things.

It is often difficult to get at the truth of history on account of the obscuring influence of the hypothesis of evolution. Men view the events of history with eyes that are biased by the preconceived hypothesis of evolution, and for this reason have failed to discover the truth because of the obscuring influence of these preconceived notions. It is necessary to know the view point of a historian in order that you may be able to estimate the value of his statements. Certain historical works appear to have been written for the sole purpose of so manipulating the events of history that the truth of the theory of evolution might be established. The attempt has been made

to reduce history to a national science, which is what it is as a result of unconscious evolution. It is necessary in the study of history to lay aside, as far as possible, our preconceived notions and prejudices, and seek to learn the lesson that history has to teach, whatever it may be. And, if this is done, it will be found that the transformations in society and the changes in political constitutions in the world's advancement do not conform to the theory of evolution, but strikingly illustrate the hypothesis of special creation.

What has been said of political changes also holds good in religious progress. There have been no changes in the religious creeds of the world by a gradual upward movement. Men do not accept a new creed until they are thoroughly convinced that the old creed they have held is untrue. And, when the change is made from the one to the other, it has always been brought about by some sudden radical movement. Every great religious movement, every reformation in the doctrines and government of the Church, every enlargement of the spiritual life in its membership has begun suddenly, and, as a rule, when least expected. Changes have taken place in both the church and the state when it seemed that they were on the verge of utter ruin. The transformations have been preceded by long years of downward progress, that is, by degeneration. When the limit of endurance has been reached by a long suffering people, the change in the form of government, the improved social conditions, and the new type of religious creed, have been introduced. The introduction of the new order in government, in society, and in the church has been by revolution; but it has usually been preceded by a deterioration in these institutions. And

this downward movement has been assumed to be an evolution, but it has been a de-evolution instead.

It is claimed that the theory of special creation is absolutely unsupported by evidence, but that the hypothesis of evolution has a number of facts in its support of the kind needed to establish its truth. But we hold that there is abundant evidence of the kind needed to establish the theory of special creation. As the political governments and the Christian Church have reached their present high state of development by passing through certain revolutions and reformations, so, in like manner, the present state of development in the earth, the species, and man has been brought about by geological catastrophes and sudden radical changes which are such as we would naturally expect were they the result of divine intervention. These cataclysmic transformations in the inorganic world and the sudden miraculous changes in the organic world are in perfect harmony with the theory of special creation, but they are inexplicable on the hypothesis of evolution. By placing evolution and revolution in juxtaposition we hope to be able to show that man originated by special creation, and not by a process of evolution.

There are three distinct kinds of revolutions. The political revolution, of which the revolution in which the United States gained her independence, is an example; the social revolution, which has more especially to do with the lives of the people, for example, the French Revolution; and the religious reformation, example, the Protestant Reformation under Martin Luther. But none of these distinct revolutions can be limited in its results to its distinctive field of operations. The political revolution produces changes in the social conditions of the peo-

ple; the social revolution brings about political changes; and the religious reformation often results in both political and social changes. But these distinctive revolutions that have taken place in the history of nations, with all their disastrous results and their far-reaching benefits, have all occurred suddenly. In order that the reader may have a clear understanding of what is meant by the term revolution as it is employed here to illustrate the theory of special creation, we shall give a brief review of some of the more important revolutions that history records. We shall undertake to show what led to these revolutions, how they came, and something of the changes that were introduced by them in the state, in society, and in the church.

I.

It was by a political revolution that the United States of America became an independent nation. The mother country, in her government of the colonies, sought, by repeated abuses and usurpations, to establish over them an absolute despotism. A king was on the throne that, to say the least, was none too highly endowed with either wisdom or intelligence. George III. was one of the most narrow-minded, stupid, and obstinate rulers that ever sat on the English throne. He was scarcely capable of forming an intelligent opinion in regard to the government of the colonies, but when such an opinion was presented to him ready made by his counselors, he was incapable of relinquishing it, however disastrous it might be to the government, or to the welfare of the governed. He believed in an absolute jurisdiction over the colonies as an

integral part of the empire, and was determined to enforce this jurisdiction. The king was not able to comprehend the free and independent spirit of the men who had braved the dangers of the new world and had established the colonies on our shores, hence, these burdens and hardships that were laid upon the shoulders of our forefathers.

The parent government undertook to enforce the abstract rights of a supreme governing power to tax the colonies without their consent, and without representation. The colonists were treated as if they had no rights that the parent government were bound to respect. Taxes were imposed, legislatures were suspended, charters were taken away, laws were abolished, standing armies were quartered among the people in times of peace, citizens of the colonies were transported across the seas for trial on pretended offenses, and petitions for redress were answered by added injuries and greater oppression. There was a growing dissatisfaction and unrest among the colonists with the parent government, which was prophetic of a coming change in the relations between the colonies and the English nation. When our forefathers recognized the fact that this long line of abuses and usurpations was being pursued for the sole purpose of establishing over them an absolute tyranny, they revolted against Great Britain. But they did not revolt until every peaceful measure had been exhausted to secure their rights.

Prior to this time the feeling for the parent government had been the best. The colonies submitted willingly to the government of the crown. The laws were held in high esteem, and the people manifested the highest affec-

tion for the home government. But when they became thoroughly convinced that their only hope was in revolution they threw off the yoke of oppression. Loyalty and affection for Great Britain were changed to bitter enmity by a systematic course of arrogant government. And this noble band of patriots, after years of tireless heroic conflict, during which they suffered all manner of privations and underwent the severest hardships, finally came off victorious in this seemingly unequal struggle. And out of this revolution there came to the American people the best system of government that exists upon the earth at the present day.

During the revolution the Continental Congress, by the mere force of circumstances, assumed the functions of a general government. The necessity of mutual help in the war compelled the united action of the colonies. It was clearly seen at the close of the war that if independence was to be maintained, there must be a permanent union and an authoritative government. And it became evident that the system of confederation of states would not meet the demands of a stable government. The wisest and ablest statesmen were called together in convention to frame a constitution that would meet the demands of a stable government. In this way the colonies were converted from a loose confederation into a compact nation, not from the provision and deliberate building of statesmanship, but simply from the sheer compulsion of unforeseen events. It was necessary that these states, when they were united, have a constitution, and the commission that was appointed for this purpose framed the instrument of government which was after-

wards ratified by the separate states. Therefore, the Constitution of the United States did not grow, but was made. And this made constitution is the greatest achievement of the intellect of man, unaided by supernatural power. No greater tribute could be paid to the statesmanship of its framers, than the fact that Gladstone acknowledged the constitution to be "the greatest work struck off at any one time by the mind and purpose of man, except perhaps the great nation that has been governed by its provisions."

And not only was the constitution made, but all the fifteen amendments that have since been added to it have been made. These amendments did not come about by slow degrees of change through long periods of time. But every one of them has been the resultant of the exigencies of the times. The first ten amendments were added to the constitution immediately on its adoption, and were in the nature of a bill of rights which many of the states demanded when they agreed to accept the instrument of government. In reality, they may be regarded as practically forming a part of the original instrument. The same is likewise true of the eleventh amendment, which was added by the men who made the constitution, in order to perfect the instrument. And the twelfth amendment was made necessary by the discovery of a grave defect in the electoral system. The situation was a perilous one, and the will of the people in the choice of the President could have been easily thwarted by a few unscrupulous politicians. This grave danger had been unforeseen by the framers of the constitution. The plan that was formed to defeat the will of the people on a mere technicality was defeated by Alex-

ander Hamilton and other Federalist statesmen. And to make a recurrence of this danger impossible, the twelfth amendment was adopted.

More than a half century passed before the constitution was again amended, and the next three amendments were added in rapid succession. These amendments were added as the direct result of the civil war. This great conflict grew largely out of the slavery question. Slavery had been a bone of contention with the framers of the constitution, and the institution was recognized by compromise. It seemed the wisest thing to do to recognize it, rather than to have no constitution. The iniquitous practice had at length reached a place where it could no longer be endured. The very life of the nation depended on its abolition. After the close of the war these three amendments were adopted. They abolished slavery, gave to every man the right of franchise without regard to his race, color, or previous condition of servitude, and embodied some other conditions that were made necessary by the civil war. Therefore, we see that after the early amendments, made necessary in order to perfect the constitution, it has practically only been amended a single time, and that was by the three great amendments which were added as the result of the war of the rebellion. It is not impossible, of course, for the constitution to be amended except by a revolution. It might be changed by a more gradual process, but it originated, and all the amendments that have been made to it thus far have been by revolution. If it is a rule that constitutions are not made, but grow, the constitution of this government is an exception.

II.

The growth of liberty in the English nation can be traced, to a great extent, in the royal charters. And almost invariably these charters were concessions of the rulers to end a protracted controversy with the nobles and people. It was a revolution that gave England her Magna Charta, the earliest monument of English liberty. King John, who occupied the throne at the time, was the most ignoble and profligate of all the English rulers. His usurpations, together with his profligate life and tyrannical disposition, completely alienated the affections of the people. He trampled under foot the rights of the people and openly violated the laws of the land. There was a wide-spread unrest and dissatisfaction throughout the land, and the people longed to be free. The exactions of the king at length aroused the whole nation, and the nobles, the clergy, and the common people, all united in the contest for their rights. Both parties made preparation for war, but the king had so incensed the feelings of the people that he had but few supporters. And when he found himself deserted by all his subjects except a few knights, with the whole nation confronting him in arms, he yielded to the inevitable and signed the Great Charter, granting larger liberty and greater freedom to the English people.

This charter is the chief distinguishing mark between a free country and a despotism. It defined the rights of the nobility, the clergy, and the common people, and placed certain restrictions on the reigning monarch. The

granting of this charter was a revolutionary change from absolutism to the recognition of the rights of the people. There had been some grants forced from former kings by the uprising of the people, but, of all the grants that had been previously made by various kings, there was nothing to compare in its importance to this charter wrung from King John at Runnymede. There has scarcely been a claim for popular rights that has since been made which did not in some way depend on this charter.

This charter was violated many times by almost every sovereign down to the time of the Revolution, but none of them denied its validity nor contested the binding force of its provisions. The Great Charter was repeatedly annulled, confirmed, annulled, and reconfirmed, often even by the same ruler. The nobles attempted to form guarantees against the infraction of the charter by the appointment of a council to see that its provisions were kept. But it was not difficult for an able and popular ruler to gather the reins of government into his own hands and overthrow the will of the people. The reigning sovereigns that held firmly to the doctrine of the divine right of kings and to the passive obedience of the people, ignored the provisions of the charter whenever possible. The Parliament finally gained greater powers, and then the rights of the people were more carefully guarded. But this body was looked upon by tyrannical rulers as having no rights except to carry out the will and policy of the sovereign. When a ruler of this type had secured the reins of government well in his own hands, he avoided the restraining influence of Parliament by refusing to call it together. But the Parliament at length overcame this difficulty and strengthened its power by passing a

law that if the sovereign did not call it together that its members were to assemble themselves after three years.*

The English people have always been very conservative, and while they threw off the yoke of despotism when they compelled King John to grant them the Great Charter, yet they retained the same form of government. The king still reigned, though with restricted powers, but it was not difficult for a willful and able ruler to annul the charter. The danger of making the change from despotism to a limited monarchy in this conservative way was the return, through old forms, to the same old evils. And this is what actually occurred, again and again, in the history of the English people. The people sometimes enjoyed a large degree of liberty, and again some able and willful monarch usurped the powers of government and reigned as an absolute despot. There was a long struggle between the successive rulers and the people. These conflicts finally resulted in the complete establishment of a representative form of government that secured the personal liberty of the people. But it was only after a long series of epochs that the new and popular spirit was poured into these old forms of government. The Revolution finally revived and firmly established the doctrine that the supreme power of the nation resided in the Parliament, and centralized its authority in the House of Commons.

The liberties and privileges of the English people were won after long centuries of conflict. The evolutionists might, by utterly ignoring the frequent loss of the liberties of the people under tyrannical rulers and their resto-

*European Constitutional History.—Case.

ration after the revolt of the people, contend that the English constitution was not made, but grew. The English constitution, however, was made, not at once, as that of our own country, but by a large number of revolutions of greater or of less importance. It did not grow by slow degrees of change through these centuries of conflict. It was not the result of progressive change with unbroken continuity. The changes in the constitution, as a rule, were made by the sword's point amidst the rattle of musketry and the deafening roar of cannon, but sometimes the changes were brought about by a "bloodless" revolution.

III.

The French Revolution furnishes a striking illustration of the suddenness with which political and social changes take place. In France the feudal system had reached its most perfect development, and many of its institutions and privileges continued even after the reigning sovereign had gained absolute power. Feudalism was of slow growth, but it gradually absorbed the government and all the national institutions. It had its rise, no doubt, from the people's placing themselves under the protection of the barons in times of danger from invasion. These lords grew stronger and the people became dependent upon them, until the rights of the people were finally taken from them. This system was at last completely and systematically established. For almost three centuries the power of the feudal lords was supreme, and the king was nothing more than a figure-head. Feudalism had succeeded in destroying the liberties of the people,

and had reduced them to serfs that were bought and sold with the land. It is not strange that the people should become weary of this oppression, and should long for the restoration of some of their lost rights. About this time there arose a conflict between the sovereign and the feudal lords for supremacy. The efforts of the king were directed towards bringing the nation under his own control. He was striving to regain some of the lost power of the throne and to become the controlling power in the state. Royalty now used the people against the aristocracy in order to further its own ends in securing control of the government. In making their choice between the contending powers, the people preferred to place themselves under the rule of the sovereign, rather than remain longer the slaves of the feudal lords. In identifying themselves with the king they hoped to regain some of their lost liberties. Feudalism was a present evil which they sought to escape, while despotism was only a distant possibility. And the people, in order to escape the present oppression of feudalism, accepted the more distant oppression of royalty.*

In the contest for supremacy between the feudal lords and royalty the crown at length won, and the feudal aristocracy was compelled to recognize the supremacy of the king. This change came about very gradually. As the power was centralized in the ruling sovereign, the power of feudalism gradually ceased, and the growth of royal power constantly increased. Feudalism was slowly undermined by the growing power of royalty and became a dying institution. But this change was not brought about

*European Constitutional History.—Case.

through the agency of natural forces working to this end. When feudalism was finally merged into royalty, Louis XIII., one of the weakest and most incompetent rulers sat upon the throne, and the change was brought about by the efforts of Richelieu. This unscrupulous, but prince of statesmen, wormed his way into the confidence of the king, and became the master of the realm. And by his genius and loyalty to the throne, the power was gradually taken from the feudal lords and centralized in the ruling monarch. Richelieu made this his life work, he extricated France from the perils of feudalism, and made possible the absolutism of Louis XIV. And feudalism with all its oppression was finally merged into absolutism. Louis XIV. took the reins of government into his own hands, and the royal power became absolute. The legislature was abolished, the courts were silenced, and hundreds of the best citizens were banished from the land. Sovereign authority was vested in the person of the king. He was the most absolute monarch that ever ruled in France. He was the state, and his will was the law of the land. His love of display prompted a most prodigal extravagance, and his sensuality inspired the greatest excesses. He gathered around him the grandest and most extravagant court that the world had ever seen. He exhausted the resources of the country in building magnificent palaces, in sensual pleasures, and in carrying on costly wars. At his death the country was bankrupt, and the people were reduced to untold miseries.

Louis XV. was the heir of centuries of misrule and oppression. He inherited all the evils that resulted from the wars, wasteful extravagance, and sensual indulgence of his immediate predecessor. The treasury was empty

and there was a vast public debt. The depleted condition of the finances, however, did not restrain the king and the court in their expenditures. They fared sumptuously, dressed extravagantly, and lived for pleasure; but their pleasures were purchased by adding greatly to the burdens and sorrows of the people. The nobility were pleasure seekers, superficial, skeptical, and vile, and the king lacked the will power to carry out the plans that he knew were for his own best interests. He persisted in adhering to immoderate pretensions while practicing corruptions, and permitting the gravest abuses.

The power was centralized in the crown, and the people were ground into a fury of madness by the oppression of the sovereign. The fatal mistake of the ruling classes was a blind persistence in their efforts to retain absolute power over the people and to live in luxury at their expense after they had ceased to render any adequate return for these privileges. Instead of ministering to the weak and helpless people they preyed mercilessly upon them. The nobles of France were the most worthless, arrogant, and extravagant of all the nobility of Europe. They systematically extorted taxes from the people to minister to their own pleasure. They were exempt from taxation themselves, and refused to be taxed to relieve the burdens of the people. The court, the nobility, and a few thousand aristocrats spent their lives in luxurious ease, while the millions dragged out a wretched existence made up of toil and suffering.*

The ruling classes would not make any sacrifices, whatever, in the time of the nation's need. The nobles,

*French Revolution.—Carlyle.

the aristocrats, and the clergy held tenaciously to their privileges, and the court would curtail none of its unnecessary expenses. The extravagance and prodigality of the court increased and multiplied the burdens that were already crushing the people to the earth. The situation of the absolute monarchy finally reached a crisis. There was, on the one hand, a corrupt court, falling short of the means to gratify its vicious appetites, while, on the other hand, there was a hard toiling people, pinched with hunger and driven almost to despair. The king and nobility found themselves in possession of a bankrupt treasury, facing a people distracted with poverty and disheartened by hardships. There abounded everywhere injustice, oppression, poverty, and misery, and more and more these conditions prevailed throughout the land. The cup of misery had been accumulating for centuries, and it was now full to the brim.

These times called for a ruler with marked ability and indomitable courage, but Louis XVI., who now occupied the throne, possessed none of the qualifications necessary to fit him to cope with these critical conditions that confronted the nation. He seemed to be incapable of comprehending the critical situation that confronted him, and he was without the decision of character to cope with it, had he been able to comprehend its real drift. He was not only incompetent himself, but he was surrounded by incompetent ministers.

The spirit of revolution was fed by the religious intolerance and hypocrisy of the priests. Faith was dead and unbelief was triumphant. The priests as well as the nobles had survived their usefulness, and had become in-

struments of oppression and extortion. For a long time, as conditions grew gradually worse, the spirit of revolt had been growing in the breasts of an outraged people, but they were not fully conscious of the real cause of their wrongs and misery. The people realized their wretched condition, and were awake to the need of improved conditions, but the spirit of revolution was unformed and the discontent undefined. It was the atheistic writings of Rousseau and Voltaire that crystallized this revolutionary spirit. They dwelt on the miseries of civilization, and set forth the preferability of the savage state to that of the civilized. Their false philosophy undermined the foundations on which government is built. They needed now but to point out to the starving, oppressed people who it was that had oppressed them and stolen their bread, to precipitate the revolution.

The sum of oppression had been increasing for centuries until it became so great a burden that it could be no longer borne by the people. The storm cloud was long in gathering, but the storm itself was all the more fierce because so long in gathering. It finally burst in all the fury of a tornado upon the country, and swept everything before it. It was the sudden and violent termination of a work that century after century of misrule and oppression had produced. The result could be nothing less than the revolution and the reign of terror.

The French Revolution was the result of many conspiring forces and influences, a mighty cataclysm whose magnitude is an indication of the great length of time and the variety of the agencies required to produce it. Its chief causes were feudalism, misrule, excessive taxation,

and an infidel philosophy. When the revolution broke forth it came like a volcanic eruption, taking the world completely by surprise. There had been, it is true, the smoke of discontent, and the mutterings and rumblings of hidden fires; but not even the wisest statesmen thought that there was any danger of an eruption. In an hour when it was least expected, the pent-up forces burst forth in all their fury, consuming, for the time being, every vestige of feudalism, royalty, and religion, as parts of the old and rotten order, and bringing confusion and chaos throughout the land.

The French Revolution broke the chains that had been forged by unequal laws, established justice, and secured the equal rights of the people. The cry "liberty, equality, and fraternity" roused the dormant energies of the people to a supreme conflict against feudalism and absolutism. It gave a long-oppressed and down-trodden people the opportunity to rise from their degradation and become free men. It was a great social upheaval. The people were gathered into a general assembly, and they began to build from the foundation a republic consecrated to liberty, fraternity, and equality.

The French Revolution was iconoclastic in method. The danger of such a radical method was in reaction, especially among a mercurial people like the French. And the reaction was not long in coming, revolution and counter-revolution. The form of government was changed from a republic to an empire, and from an empire back again to a republic. But the revolution accomplished its chief purpose, and that purpose was equality before the law. The destruction wrought by the revolution was

but new creation on a higher and a broader scale. The feudal system was destroyed, the oppression of despotism was at an end, and the people gained a written constitution in which their rights were recognized.

The evolutionists, with their usual inability to recognize any changes except such as conform to the requirements of their theory, claim that the French Revolution was not a sudden and complete break with the past; but contend that it was a gradual development through feudalism to absolutism, and through absolutism to democracy. The evolution was step by step from dominant feudalism to absolutism in government as a preparation for the ultimate expression of national democracy. But the feudal system was the result of degeneracy, which was destructive to the rights and privileges of the people. And absolutism completely crushed out every vestige of privilege that feudalism had left them. The process of development was downward—a degeneration; and not an evolution from the lower to the higher form of government. The development is not true to theory. It is a development from a complex feudalism in which many nobles rule to a simple absolutism in which one despot rules supreme. And the change from absolutism to democracy was sudden and radical, which is entirely inconsistent with the hypothesis. The revolution came when the oppression could no longer be borne. The new force of the people slowly arose into actuality, and suddenly threw off the yoke of oppression. The old forms of government, failing to yield to the new spirit among the people, were cast off by violent revolution.

IV.

The advance from Calvinistic Protestantism to Arminian Protestantism was by means of a religious revolution. This great religious awakening of the eighteenth century was not brought about by age-long development through successive improvements in the morals of the people, but was the result of a religious reformation of scarcely less magnitude and importance than the Lutheran Reformation. It had its origin, like the great political changes, out of the worst possible conditions in society. There had been a long retrograde movement in the morals of the people until religion had become a byword. The picture of English society in the early part of the eighteenth century, as portrayed by the pen of contemporary writers, is scarcely surpassed by the degradation and corruption in France under the reign of Louis XIV., or even in Rome itself in the period of her greatest corruption. It was an enlightened, but corrupt age. There were poets of marked ability, scholars of great learning, orators of renown, artists of great skill, reasoners with masterly powers, gifted statesmen, and blatant infidels. It was said of the age: "There is no religion in England. If the subject is mentioned in society it excites nothing but laughter."

The services of the Church of England had never been more stately and magnificent than in this age. But the established church had lost all moral power and restraining influence, through the substitution of ritualistic rites for the saving spiritual forces. Formalism had sapped the spiritual life of the church. The clergy of the state

church were in love with the world, and had no real conception of the sanctity of their calling. The clergymen who ministered at the altars of the church had not received their appointments because of their intellectual qualifications or their moral fitness, but for the fat livings that went with the office. The sacredness of the office, or the moral qualifications necessary to fill it, were not taken into consideration. They were ignorant sportsmen and fox hunters, gamblers, and drinkers, who knew more of vice than of virtue, and were more familiar with the race course than the way to heaven. They were appointed, not by ecclesiastical authority, but by the nobility, who had the appointment of the clergy to the churches within the bounds of their estates. The office of the clergy had become wholly a political appointment. The nobility in this way paid off some of their political debts by appointing their minions to rich livings. The pulpits became, as a consequence, largely filled with irreligious, dissipated, ignorant time-servers, who not infrequently drew their salaries without rendering any service whatever in return. As a result of this state of things in the church, there was no religious influence nor moral restraining force in the nation, and the people were fast drifting into political and social ruin.

Foulness infested literature, profligacy disgraced the upper classes, and the masses were utterly degraded. The higher classes of society had become so corrupt that they had lost all sense of shame, and openly lived lives of infamy. The common people had reached the lowest depths of iniquity, and were debased and brutalized. The English nation was tottering on the verge of ruin, ready to fall to pieces of its own moral rottenness. The conserving

force of religion was destroyed, and there was left no power in the nation to save her from certain ruin.

It was in a corrupt age like this that John Wesley, a sincere formalist, a strict churchman, and an able scholar, was led into a deeper religious experience. While listening to the reading of Luther's introduction to the book of Romans, he felt his heart strangely warmed. There came into his life in that moment the conscious knowledge of that power which was the primary influence in creating the reformation under Luther. Wesley gathered around him a few followers, and began to preach a free, full, and conscious salvation from sin. The higher classes scorned his doctrines, the churches were closed against him, and he was forced to turn to the open fields for preaching-places, and to the degraded masses for congregations. Wesley suffered all manner of indignities. He preached in the midst of contempt and obloquy. He was opposed and scoffed at by the higher classes. And he was stoned and suffered violence from the hands of the mobs. But this great religious revival, coming from a higher source than man, could not be stopped, or even long hindered, by opposition and persecution.

The masses, however, were reached and saved from their iniquities, and lifted out of their degradation, and through them the higher classes were reached. For the progress of Christianity has never been from the higher to the lower classes, but from the lower to the upper. Not the noble, not the rich, not the learned, but the poor, the weak, the ignorant, the down-trodden, have been the first to embrace its teachings, and from these it has spread to the higher classes of society. The Church of England was reformed, the nation was redeemed from moral pollu-

tion, and millions of the race have been lifted nearer to God by this great religious awakening. John Wesley is now regarded by the historians as the most influential man, and the religious awakening under his preaching, as the greatest force of the eighteenth century in England. The Wesleyan movement was not the result of a doctrinal controversy, like the Protestant Reformation, but was an evangelical reaction against the impiety and vice of the age. The religious reformation that produced Methodism was not an evolution, but a revolution.

V.

The change from the Latin Christianity of Rome to the Germanic Christianity of Protestantism was the result of a revolution. The Reformation came through the light and power of the genius of Luther, bursting through the crust formed by the dark ages, and learning the truth of God that men are not saved by works alone, but by faith. When Christianity came to the throne with Constantine, the masses of the people were brought into the church by compulsion, and the services of the church took on the pomp and splendor of heathenism in order to appeal to the sensuous elements in heathen nature. The pure, simple gospel of apostolic times was almost completely obscured by pagan rites and worldly splendors. Christianity and heathenism were merged into Roman Catholicism. When the Roman government was overthrown by the hordes of barbarians that overran the country, and all was chaos and confusion, the reigning pope, being the strongest power left in the nation, as-

sumed the responsibility of the government and brought order out of confusion. He saved the nation from anarchy and established a stable government. This was a worthy deed and deserves the highest commendation; but having once secured political power it was regarded henceforth as a God-given right of the popes. The ecclesiasticism of the church in time became political tyranny and oppression. Kings were compelled to bow at the feet of the pope as the supreme ruler. The popes became indifferent to spiritual conditions, and became ambitious for political power, and sought to excel in material aggrandizement, while the doctrines and forms of worship fell more and more into superstition and paganism. The church was hoary with age, intrenched in power, and corrupt, from the pope in the Vatican down to the humblest peasant. It was a cruel and corrupt age; a moral, political, and intellectual chaos.

It was in an age like this that Martin Luther was born. He was a child of the people, and, while seeking an education, he sang bare-footed and bare-headed from door to door in the streets of Einsbach to earn his bread. After his graduation he was contemplating the study of the law, when one day as he was walking with a friend, tradition has it that the young man was struck dead at his side by lightning. This sudden death made a deep impression on Luther, and awakened in his mind serious thoughts as to his soul's salvation. He entered a monastery and sought to quiet his conscience by fasting, penance, and prayer, but his distress continued and his burden grew heavier. His monastic order soon rewarded his zeal by sending him on a mission to Rome. And while there he sought relief for his sin-burdened soul by

climbing Pilate's stair upon his knees, kissing each step as he mounted upward. There flashed upon Luther's mind, with the suddenness of the lightning that struck his friend down at his side, the scripture he had read in the Bible chained in the library of the monastery, "The just shall live by faith." He said to himself, "If this is true, what am I doing here?" And he arose from his knees henceforth to climb by faith and not by works.

Luther had gone to Rome a sincere papist, but he returned to his native country thoroughly disgusted with the moral degradation and the corrupt abuses he had witnessed in the holy city. About the time of his return, the pope ordered a general indulgence sale in order to replenish his depleted treasury. Among these agents that went forth to offer indulgences at a price, John Tetzel was the most scandalous. He traveled from place to place through Germany beating his drum, and offering his wares for sale in the most public manner possible. When Luther saw this vulgar peddler offering for sale the mercies of heaven, it aroused his righteous indignation against the shameless traffic. He drew up ninety-five theses against the doctrine of indulgences, and setting forth the true way of salvation, and these he nailed to the door of the church at Wirtemberg. He laid the ax at the root of the tree of corruption—the false principles of theology that caused the corrupt practice. He not only attacked the doctrine of indulgences, but showed that the doctrine was antagonistic to the grounds of forgiveness as set forth in the Holy Scriptures. This idea of justification by faith, for which he contended, was an old doctrine, but it was entirely new to Luther, and also to his age. It had been completely hidden from sight by the

pagan rites and ceremonies that had crept into the church during the dark ages.

This bold step involved Luther in many controversies, but he bravely defended his position. The authorities looked upon this lone monk contending against the corruptions of the church, at first, as an object of amusement, then of anxiety, then of alarm, and, finally, of intrigue and violence. The theologians of the church defended her doctrines. They cited the decrees of councils, quoted from the opinions of eminent ecclesiastics, and adduced evidence from the writings of the church to prove their doctrines and to show that Luther was in error. They asserted the mighty authority of the Church for the doctrines they taught. The genius of Luther was equal to the demands of the occasion, and he now took the second great step in the Reformation. He boldly denied the supreme authority of popes and councils, and appealed to the Scriptures as the true source of authority.

The pope issued a bull calling upon Luther to recant, ordering his writings to be burned, and threatening him with excommunication. But the bold monk publicly burned the pope's bull, and thus defied his authority. Pressure was now brought upon the civil authorities, and he was summoned before the Diet of Worms to answer for his heresies. It was a crime to think in his age. He did not only think, however, but he had the courage of his convictions. And when they demanded that he retract, he rose to the occasion, and took the third step in his revolt against the church by declaring the right of private judgment. He said: "Unless I am convinced by reason and the Scriptures, I neither can nor will retract anything, for my conscience is a captive to God's Word.

and it is neither right nor safe to go against conscience. Here I take my stand, I can not do otherwise, God help me, amen."

The Reformation reached its climax when Luther asserted the right of private judgment. His bold stand at the Diet of Worms is one of the most striking scenes that history records. It is the point from which all the subsequent history of civilization and progress take their rise. In thus exalting the right of private judgment, based on reason and the binding force of conscience enlightened by the Scriptures, in opposition to the arbitrary authority of the Church and the State, he revolutionized both the Church and State.

Luther was the commanding figure of the sixteenth century. But it is simply nonsense to talk about the age being behind him and making him inevitable. The Reformation can not be attributed to a general spirit of protest among the Germanic peoples against Roman imperialism, as personified in the person of the pope. It was not merely the result of a protest against the corruptions of the Church, the onward march of humanity, the necessary progress of society, the spirit of inquiry, the renaissance, none of these singly, or combined, caused it. Its real cause was a new power implanted in the heart of Martin Luther by divine inspiration, the peace that comes to the soul through the exercise of faith in the living Christ. It was individualistic—a revolt of one man against centralized authority.

The Reformation was a great intellectual and spiritual awakening, due to a new interpretation of the Scriptures, and the right to exercise private judgment by the individual. The human mind was emancipated from sacer-

dotal authority, and religion was purified from the corruptions of the dark ages. It was not the outgrowth of age-long progress, spreading ever wider, rising ever higher, until it reached its highest development in the Reformation. It came when the church was degenerated. The pressure of the crust of oppression and moral abuses had reached a place where the strain could be no longer endured, they were burst through suddenly, and were thrown off by violent revolution.

The Christian religion itself, the greatest of all religious movements, originated in a revolution. It was not merely the outgrowth of Judaism, nor was it based on the highest development of that religious system. This system of rites and ceremonies had spent its force and lost its power. Jesus Christ, the founder of the Christian religion, can not be accounted for by natural and historical causes. He was by birth a peasant, cradled in a manger, clothed with humility, despised and rejected of men. He can not be accounted for by the laws of heredity and environment. It is true he was a priest, not however after the regular order of succession in the tribe of Levi, but after the order of Melchisedec, without genealogical beginning or ending. In the darkest hours of history, the Messiah came; under the rule of one of the most profligate kings, he was born. The village in which he was reared was noted for wickedness, and such was its reputation that it was thought that no good thing could come out of such a place.

The beginning of the Christian era was perhaps morally the darkest in the history of the world. The moral and religious influences of the past seemed to have spent themselves. The race had steadily retrograded until it

could not sink deeper in its degradation and continue to exist. Religion in the heathen world was synonymous with evil. Humanity was a great mass of moral rottenness. A few, comparatively, held the wealth of the world and enjoyed the privileges, while the masses of humanity were held in slavery of the most abject type. It was an age, it would have seemed, for destruction instead of one for salvation.

By the confession of all men irrespective of their religious beliefs, there once appeared a perfect man upon the earth, in an imperfect age. When he reached the estate of mature manhood, suddenly he burst upon our vision, without previous training or education, the greatest teacher of the ages. There was no reliance in his teaching upon corroborative testimony, or on traditional support. He gave out his doctrines from the depth of his own consciousness. He was a marvel to his own age because he was not a mere interpreter of truths already revealed, but the revealer of new truths. His teachings were not the explanation of the text, but were themselves the text.

Evolution does not explain the spotless character of the Christ. Men have never reached excellence in moral character without repentance for sins committed, and years of righteous living. But the Christ never humbled himself before God on account of his sins. He did not attain unto moral perfection by long years of self-denial and righteous living. He had no need of these aids to the development of a holy character. He possessed a moral perfection unparalleled and unapproached. But there was nothing in his antecedents to account for his spotless character. There was nothing inherent in the race from which he sprung to produce such an embodi-

ment of pure and universal love. There was nothing in the environment of that corrupt age to produce a character of such matchless purity. He surpasses the highest attainments of men. He is the noblest ideal of the race. We are forced to go back two thousand years to one of the most corrupt ages of the world to find the ideal man.*

In Jesus Christ we find a personality that is real and imperishable. He was born and lived among men. And every attempt to resolve him into a myth has failed. He is such a person that men could not have imagined him, if they would, and would not, if they could. The character of the Christ is so perfect that no man of his age, however gifted, could have invented it. He stands alone as no other man ever stood. He is a distinct type by himself. All other men can be classified, but he defies classification. The greatness of men is shared by other men in the same realm. Among philosophers, Plato and Aristotle; among poets, Homer and Dante; among soldiers, Cæsar and Napoleon; among statesmen, Cromwell and Lincoln; among orators, Cicero and Demosthenes; among reformers, Luther and Wesley. But Jesus Christ stands alone in supreme isolation. There is no one that is worthy to be compared with him. The story of the Christ could not have been pieced together, and attributed to a mythical master. It is not a mosaic, it is a living unity. It is not the creation of faith, it is the creator of faith.

Christianity was not developed from Judaism, but Jesus Christ came into the world and established this new type of religion. He was not merely the son of Israel after the flesh, he was the son of God manifest in the

*The Mind of the Master.—Watson.

flesh. The ordinary laws of generation were suspended, and contrary to the invariable order of nature, the Son of God was incarnate. The redemption of the race did not come by the ascent of man up to God, but by the descent of the Son of God to humanity. And the fittest did not survive at the expense of the unfit, but the holiest character that ever lived was crucified that the unfit might survive.

There was not only a difference between the teachings of Christ and the traditions of the scribes, but a total divergence, an absolute contrariety in fundamental principle and spirit. He said nothing about the Levitical system, he ignored the rites of the law, and repudiated the traditions of the elders. When a humble penitent came to him burdened down with his load of sin, he simply told him that his sins were forgiven, and that his faith had saved him. He never sent the penitent to the priest to offer the sin offering, in order to obtain remission of sins. His method was revolutionary, and consequently aroused the determined opposition of the scribes and traditionalists.

The Christian religion was not an evolution, but a revolution. The system of Judaism was prior to Christianity and foreshadowed it, but it failed to grasp its central doctrine, salvation by faith in a Divine Redeemer. The old systems of religion that went before Judaism did not produce Judaism. There was no shading of one system of belief in God into another and higher belief. Pantheism was not the outgrowth of polytheism, nor was monotheism the product of pantheism. And Judaism did not gradually develop among the Jewish people. Israel did not originate the idea of one God, that idea produced

Israel. All these old systems of religion were practically dead when Christianity came into existence, and its appearance was sudden and phenomenal.

Between the last of the prophets and the advent of the Christ, there was a period of four hundred years of silence, during which the religious development of the people came to a standstill and degeneration took place. There appeared a lower type of religious teachers, who obscured the spiritual teachings of the law and multiplied external rites. The prophets were superseded by the scribes, who magnified the letter of the law, and lost sight of the spirit. And there was nothing left of the old system, taught in the law and the prophets, except empty forms and useless ceremonies. And for this reason the age that preceded the advent of the Messiah yielded nothing of value to the age that followed. It was a sterile age, yielding nothing intellectual or spiritual. It was in an age like this that Christianity had its origin. Its sudden advent was necessary to save humanity from utter ruin on account of its moral pollution,

VI.

These revolutionary changes by which the race has advanced politically, socially, and religiously, are diametrically opposed to the hypothesis of evolution. But evolutionists account for these sudden radical changes that have occurred in the history of the progress of the race in a way that is entirely satisfactory to themselves. They regard them as concentrated evolutions in which all the steps have been taken, but we fail to see them. Evolu-

tion makes the great men who have arisen and transformed their age through their genius the incarnation of the spirit of the age. History is reduced to a national science, an irresistible, relentless tide, which is and must be what it is as the result of unconscious evolution. The history of the development of the race is a kind of totality, which can not be other than it is, because of this irresistible tide of unconscious influence.

Let a man distinguish himself among his fellow-men, and he is accounted for by showing that he sprung from some distinguished ancestor. The first chapters of his biography deal with his parents and his grandparents, making them out great in some way, though the world may never have heard of them, and, moreover, never would have heard of them had not their descendant distinguished himself. If there can not be found in the immediate ancestors of the man of genius the qualities that produced him, then his ancestry is traced back to the remotest generations of the past, until there is found a progenitor whose existence accounts for him. Has the man distinguished himself on the field of battle, his military genius is accounted for by tracing him back to some soldier ancestor of the past. How familiar have we all become with the assertion found in the biography of soldiers, or seen in the public press, that "his family traces a direct descent from a Norman who fought with William the Conqueror at the battle of Hastings." And his ability to command men, and the courage he exhibits on the field of battle amidst the roar of artillery and the shriek of bursting shells, are shown to be only natural to one whose ancestor fought in that noted battle. Does the name of the military genius indicate that he is of Scotch

extraction, then he is traced back to a Scotch ancestry, and it is established beyond peradventure that he descended from the branch of an old border clan that made common cause with William Wallace, which fully explains both his genius and his daring and unconquerable spirit? Should the great man be so unfortunate as to possess a name that can in no way be traced to some remote ancestor across the sea, then he is traced to the nobility that came over in the Mayflower. He must be accounted for in some manner, for it is impossible that the ability he has shown should be his own, underived from some ancestor. But, unfortunately, it often occurs that no such name can be found on the passenger list of the proud old ship that brought the pilgrim fathers to these shores. The descent of the great man must have been from those whose duty it was to climb the rigging. Hence, if the genius is not descended from a lofty nobility, he has, at least, descended from a nobility that has been aloft.

But if the man who has distinguished himself can not be traced back to some noble line in the past, he is accounted for by making him the product of his environment. The circumstances that surrounded him produced in him these qualities that enabled him to distinguish himself. The world would never have heard of him had he not lived in that age and been placed in that environment. It was his environment that influenced him more than he influenced his environment. He is the creature of circumstances. Carlyle says of this method of accounting for great men: "Show our critics a great man, a Luther, for example, they begin to, what they call 'account for him;' not to worship him, but to take the dimensions of

him—and bring him to be a little kind of man! He was the creature of the Time; they say: the Time called him forth, the Time did everything, he nothing—but what the little critic could have done too! This seems to me but melancholy work. The time called forth? Alas! we have known Times call loudly enough for their great man; but not find him when they called. He was not there; Providence had not sent him; the Time calling its loudest, had to go down to confusion and wreck because he would not come when called.”*

The idea is absurd that great men are the product of great national emergencies, and that it requires these emergencies to call them forth. The French Revolution was a theater for a great man, if there ever was one, but these times failed to produce a single great man. It is one of the greatest fallacies of the evolutionary philosophy which makes the man of genius the product of his circumstances. The greatest genius is said to be at once the product and cause of his times. He has no independent powers that are strictly his own, but he has descended from the whole past order of things. Yet it is admitted that the great man is the principal factor in some great advance movement. But he is produced by his times, and becomes himself a cause in producing changes in existing conditions. By accounting for the man in this way, and explaining that he is the cause of certain advance movements, thus making him a product and a cause at the same time, it is sought to avoid difficulties that are fatal to the theory. But this is virtually to have an effect without a cause, and at the same time make an effect produce

*Hero and Hero Worship, p. 21.

its cause. If the Revolution produced Luther, he certainly did not produce the Revolution. And if he was the cause of this great religious movement, it could not have produced him.

War never created a hero out of a coward, but it gives the hero a chance to reveal his heroism. A great national crisis never produced a statesman, it enables the man with a genius for statescraft to display his powers. The age in which the reformer lives does not push him on, and make him inevitable, it gives him an opportunity to display his genius. The men who distinguished themselves in the past, were great when the opportunity for the exhibition of greatness presented itself. The circumstances discovered the great man to the world. When the emergency arises, the men of genius are ready to meet it. And the fact of their greatness is revealed to the world in the ability they display in meeting and mastering the difficulties the emergency presents. They are already great, in that they possess these latent powers, and an opportunity was only wanting that they might exhibit them. How many hundreds of other men had seen a chandelier swing, witnessed an apple fall, noticed the lid of a teakettle lift, and felt the recoil of a gun! It makes a decided difference whether it is a Galileo, a Newton, a Watt, or a Maxim who sees and feels, whether what is seen and felt results in a great discovery or invention. Hundreds of others had the same opportunity that these men had, but nothing was suggested to their minds. It was the quickness and inventiveness of the mind that caused these things to suggest vast possibilities to these men, and nothing to the others.

The men who have distinguished themselves in the

world's history have not been the descendants of noble families. The great statesmen have not been the sons of statesmen. The great generals have not been from a long line of soldiers. The history of the world might have been different could the great sovereign have left an heir to his throne of equal ability, or the statesman have had a son who inherited his own genius. The men for the times have not been the result of the process of evolution. They have distinguished themselves because of their natural ability. They have been able to direct the affairs of the nations because of their statescraft; they have won battles because of their military genius; they have made great inventions because of their inventive genius; and they have excelled in the field of learning because of their predilection for their studies.

Men have not been mere instruments in the hands of their age, which, unaided by them, would have produced the same results by other instruments. Great men in history have appeared at the beginning of new movements. They have inaugurated changes in the world. And these advance movements never would have taken place had there been no great men to usher them into existence. Great political changes, for example, have never taken place without the direct intervention of individual wills and the genius of men to organize new systems of government, and to place the indelible stamp of their own personality upon the institutions they created. The genius of Cæsar molded the institutions of Rome in the most direct manner, and created an imperialism that lasted a thousand years. The French Empire was created by the military genius and statesmanship of the first Napoleon. It never could have grown out of the conditions prevail-

ing in Europe, had it not been for his ability as a commander, his great ambition, his mental resources, and his individual character. If there had been no Richelieu, the history of France would in all probability have been entirely different from what it has been. If there had been no Cromwell, the history of England would differ materially from that recorded. And if there had never been a Luther, no one could give an intelligent guess as to what the history of Germany, England, and America might have been.

Genius is not merely the product of antecedent conditions. No one can foretell the advent of the next great man. There is only one great man among the millions. And if environment has anything to do in producing the men of genius, it seems strange that they are almost invariably the result of unfavorable environment, and never of the most favorable surroundings. The usurper not infrequently surpasses the greatest deeds of the legitimate heir to the throne, and makes his name immortal. No really great man has ever left a truly great son. The son often gains place because some of the greatness of his father is reflected upon him, but he would have remained unknown had it not been that his father distinguished himself. Poverty has usually rocked the cradle of the men who have become the master minds of the world. Men have become great in spite of their environment. Genius is within them. And they master the difficulties and succeed in spite of circumstances. Genius has neither heirs nor ancestors but appears where and when least expected, regardless of all earthly distinctions and previous conditions. It is generally the child of obscure birth, and not the child from the home of luxury, that

lights the torch of civilization. And it is one of equal obscurity of origin that receives the light from his hand and carries it onward. These men are epochal characters in history. They are the prominent mountain peaks of humanity. Such men have been possessed with an all-consuming passion to accomplish a great purpose, and, lone-handed, achieved success in spite of the opposition of the world. The men who have revolutionized the thought, changed the customs, and advanced the civilization of the world have all been men of this stamp.

" But nature, with a matchless hand, sends forth her nobly born,
And laughs the paltry attributes of wealth and rank to scorn ;
She molds with care a spirit rare, half human, half Divine,
And cries exultantly, ' Who can make a gentleman like mine? '"

Who that knew the family of Abraham Lincoln would have prophesied the emancipator? There have been few instances in which heredity and environment were more unfavorable than in the case of this low-born Kentuckian, the offspring of poor, ignorant, shiftless parents, and with an ancestry in no way superior to his parents. He began life in an old, tumble-down cabin, in a neighborhood, low, coarse, and brutish, with the lowest society about him on every hand. There were no advantages whatever in that community for culture. And there was nothing apparently to awaken a desire for better things, or to cause aspiration to arise in the world. He was not called forth by existing circumstances. No one inspired him to endeavor. He acquired knowledge because of his intense desire to know, and rose to distinction by the force of his own indomitable will. Regardless of his low birth,

notwithstanding all the unfavorable circumstances that surround him, he rose to eminence. This poor, uncouth lad, out of these obscure surroundings, without material aid or accidental circumstances, rose to the supreme place in American history. We see him assert himself with growing energy and enterprise until he lifts himself, by the sheer force of his character, from the lowest level of society to the highest position attainable by the citizens of a free government.

There was no man in the nation that was able to grasp and comprehend the trend of events except this one man. In the darkest hour of the nation's history, when the country was in the throes of mortal conflict, and when it seemed that the nation must be rent in twain, there came from the people, a man almost unknown, who became the savior of his country. The man and the hour had met. And he was master of the situation because of his matchless powers of mind. The perilous times did not produce him, he brought order out of chaos. He did not, as some have thought, attain greatness by discovering the trend of the times, learning what the people desired, and then directed the moral forces of the nation in such channels as to produce these results. He held advanced views on the slavery question. But he fully comprehended the problems that confronted the nation. And he set for himself the colossal task of preserving the union, and at the same time freeing the slaves. The greatness of the man is revealed in his ability to hold his views on slavery in check until the conservative element in the nation saw that the slaves must be freed in order to preserve the Union. And just at the right moment he signed the emancipation proclamation. The slaves were freed and

the Union was preserved. Abraham Lincoln, the greatest American statesman, was a revolution, not an evolution.

A tyrant, Charles I., was upon the English throne, who was utterly indifferent to the welfare of the country ; and was intent only on exalting himself and his throne at the expense of the people, whose aspirations he scorned, and whose rights he trampled under foot. He was utterly insincere, making fair promises to the two opposing parties in the government, and seeking in this way to regain some of his power that he saw slipping from him, by playing the two factions against each other. He was determined to impose a tyrannical yoke on a free people, and sought deliberately to crush out all their highly prized privileges. He reigned without parliament, he tampered with justice, and he secured the means to support his government by forced loans. He attempted to rule not by the consent of the people, but without their consent. He reigned alone with a despotism almost equal to the absolutism of Louis XIV.

The Puritans, outraged by this reign of unrighteousness, drew the sword to deliver the land from the iron hand of oppression. Knaves were the masters of the realm, and the whole country was bowed in shame. When the people rose against Charles, he sought to avert the danger by making promises he had no intention to fulfill, but his perfidy cost him his throne. In the dark hour of revolution, a farmer left his plow and volunteered as a soldier in the parliamentary army, and by his military genius won his way from post to post until he reached the position as commander of the army of the people. Cromwell meets the king's forces on the field of battle, and by his superior ability as a general defeats the king's

army, and lifts the disgrace from England. He takes hold of the reins of government, and by his wise statesmanship guides successfully the affairs of the state. There was no one else to uphold the power and sustain the authority of the nation, and he shoulders the responsibility. As Lord Protector of the Commonwealth he mastered the enemies of his country, developed her resources, created a navy, making possible England's supremacy of the seas, and laid the foundation for her future greatness as a world power.

Oliver Cromwell was a man of marked ability, infinite talent, and indomitable courage. He restored law, revived learning, and secured prosperity. He was one of the wisest statesmen, and the ablest ruler that England ever had. He was ambitious, but his ambitions were noble, for they were directed toward the welfare and glory of his country. He usurped power, but he did not use it for his own aggrandizement, but for the benefit of the nation. He directed his power to save his country from anarchy. Had not a master hand been at the helm to guide the affairs of the state, there might have been enacted in England scenes scarcely less appalling than those that occurred during the French Revolution. In the Puritan Revolution, from first to last of all the men, he was the one indispensable person. He was king all but in name. And the system of government he gave England was as nearly the absolute product of the will and intellect of one man as the world had ever seen. His government did not arise by evolution out of the old monarchy, but by revolution when the old monarchy had degenerated. There were doubtless materials furnished for the new governmental structure out of the antecedent condi-

tions of the old monarchy. But without his matchless ability as a statesman to devise and execute such a system, England never would have had the government he gave her. Oliver Cromwell, the ablest statesman and the greatest ruler England has ever produced, was a revolution, not an evolution. He was not the product of his age, he revolutionized his age. He shines in uncrowned sovereignty as one of the noblest and sublimest of men.

The new republic of France was torn with anarchies, shaken with discontent, and ready to fall to pieces on account of misrule, when an unknown lieutenant of artillery came to the rescue of law and order. He was the son of a degenerated Italian nobleman. The descendant of a frayed-out aristocracy. He was born on the barren island of Corsica, and was given an education at the expense of the state on account of his poverty. He entered the army, rose to distinction, grew in power, overcame his enemies in a hundred battles, and became the greatest military genius of his age. Napoleon ranks as a general with the greatest commanders of history. He was as great as a statesman as he was as a commander, and as great as a ruler as he was as a statesman. He brought order out of confusion in France, developed the industries, and restored the finances. He was a man of irresistible force of will, with matchless powers of concentration, and dauntless courage. He won men to him by the flash of his eye, and held them to unswerving loyalty by the power of his personality. He possessed transcendent gifts and marvelous powers. Nothing in history, or even in romance, approaches the facts of his marvelous career. Without the advantage of birth, the aid of patronage, or the influence of friends in twelve years

from an unknown officer of artillery, he rose to the highest pinnacle of human greatness. Kings trembled on their throne at the mentioning of his name, and well they might, for he made and unmade kings, and regulated at his pleasure the affairs of distant courts. He flashes like a meteor across the sky of the old world. Beginning in France, burning with increasing brilliancy, now in Italy, thence in Egypt, and then in rapid succession in Austria, Spain, Russia, obscured for a time at Elba, to flash again into view at Waterloo, finally to be consumed at St. Helena. Napoleon Bonaparte, the soldier, statesman, and emperor, was a revolution, not an evolution.

This has been a somewhat lengthy review of these familiar facts of history, but it was necessary in order to illustrate the views that are presented in the following pages. We have seen that the changes that have taken place in human governments in great political advance movements have been the results of revolutions, and have had their origin, not out of the highest development, but out of national degeneracy. In like manner the social revolutions have been brought about in the same way, and always out of similar conditions. The religious reformations have invariably begun in a low state of morals, and have been, as it were, new creations out of moral chaos. The men who have been the prime movers in producing these transformations in the state, society, and the church have had their origin in obscurity, and have suddenly arisen in times of emergency, and quickly wrought these marvelous changes. These facts are diametrically opposed to the hypothesis of evolution, but they are not introduced here merely to show that the theory fails to explain the facts of history. They have not been pre-

sented merely to show that the progress of civilization has not been in harmony with the requirements of evolution, but chiefly as illustrations of what has taken place in nature in the production of the earth with its various forms of life. And if it can be shown that the earth and life have been produced in a similar manner, then the theory of special creation may be established. In the chapters that follow we shall undertake to show that the earth, the species, and man have all originated by revolution.

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"Science conducts us back in the history of a world to a primitive incandescent vapor. She calls that a beginning, and may assert that every physcial event of a hundred millions of ages existed potentially in that. But this is really no explanation of the ultimate and only real cause of any thing. Reason demands the cause of this beginning.. What were the antecedents of the cosmical vapor? In the absense of antecedents, what was the cause of this fire-mist—of these forces active in it?"—*Winchell*.

"Beginning with the panorama of the Nebular Hypothesis, run the eye over the field of Palæontology, Geology, Botany, and Zoology. Watch the majestic drama of Creation unfolding, scene by scene and act by act. Realize that one power, and only one, has marshaled the figures for this mighty spectacle; that one hand, and only one, has carried out these transformations; that one principle, and only one, has controlled each subsidiary plot and circumstance; that the same great patient, unobstrusive law has guided and shaped the whole from its beginnings in bewilderment and chaos to its end in order, harmony, and beauty."—*Drummond*.

THE FORMATION OF THE EARTH

IT is held by evolutionists that a uniform plan of construction pervades the inorganic world in all its periods of development, and that this plan after which it has been constructed is that of evolution. In the geological history of the earth each of its successive conditions has been regarded as being related to those which preceded it and those which followed it as a series. It is confidently asserted that there is such a succession of geological strata and connection of the periods of development as constitute an evolution. The whole physical world is therefore regarded as the result of the operations of the law of evolution under the activities of energies which we call the forces of nature. And the alleged fact of the unity of organic history is looked upon as firmly establishing the doctrine of evolution. But the hypothesis of evolution has obscured to a great extent important facts connected with the earth's development. The succession of the periods of advance has been assumed as positive proof that one period has been the outgrowth and cause of another. This method of reasoning, as we have already seen, is fallacious. The geological periods do follow each other, it is true, but the one is not the cause of the other any more than day is the cause of night, or spring is the cause of summer. The conditions of one period furnish the materials and basis for the next, but the changed conditions are the result

of forces outside of the geological periods and the materials themselves.

A careful and candid investigation of all the phenomena connected with the development of the physical world shows that this so-called law of progress and continuity does not account for the origin of the planet on which we live. There has been a development in the history of the earth, but the development has not been the cause of the earth's advancement. The laws of degeneration and revolution have played an important part in the development of this planet. The theory of evolution can not satisfactorily account for the changes in nature, which produced the inorganic world. The changes in nature have not been by regular recurring advances of slight progressive changes, but changes and progress have followed decay and destruction. There have come in the history of the earth's development overmastering recurring cycles, which have introduced new conditions and inaugurated changes that could not be accounted for by previous changes and conditions. As we investigate the facts relating to the formation of the earth, we shall learn whether the assumptions of evolutionists are well founded.

I.

The beginnings of the earth's history can not be learned from the geological records. We must go back of the recorded facts as they are revealed in the strata of the earth for the data upon which to found our theory of the beginnings of the present order of things. We must enter the uncertain field of speculation, and be guided here

by the aid of the science of astronomy. But the facts and speculations of astronomy afford us grounds for a working theory as to how the solar system originated. What may be inferred about these earlier conditions is set forth in the Nebular Hypothesis of La Place.

This hypothesis supposes that all the matter of the solar system was once a revolving mass of widely extended vapor, having a diameter equal with the orbit of Neptune. There being no exact information as to the way in which the earth was formed, we are compelled to be content with a mere hypothesis as to its origin. The hypothesis is not demonstrated as yet, but there are a number of facts that are in harmony with its deductions, and of the order required to establish its truth. La Place assumed that the space in which the solar system now moves was once filled by a gaseous cosmic matter of a high degree of temperature. This enormous mass of nebula constantly lost heat by radiation, and condensed gradually around a central nucleus. These particles of gaseous matter were not only subject to condensation, but were subjected to the laws of motion, and were hurried through space in an immense ring around the axis of the system.

The constant loss of heat and the contraction of the spheroidal mass had the effect of increasing the speed of the rotation. At the same time the centrifugal force was proportionately increased, and the law of attraction, which had hitherto prevented the molecules at the circumference from flying off into space, was at last counterbalanced by the centrifugal force, and were thrown off from the mass in the form of a circular revolving ring like those of the planet Saturn. This ring continued to

rotate around the parent mass until the oscillations to which it was subjected produced a break, and the whole material of the ring was gathered by mutual attraction into a gaseous globe which continued to revolve about the nucleus. In the process of time the principal mass, under the influence of refrigeration and acceleration of motion, threw off another ring. This new ring revolved around the central mass until the centrifugal force overcame gravitation and produced a rupture, when the particles gathered themselves into another revolving gaseous globe. From time to time this process was repeated, and a series of globes were formed at varying distances from the center of the system. These globes became the planets, and the central remnant the sun. The largest detached globes of matter were formed of rings that were thrown off when the parent mass was largest. The rings that formed Neptune, Uranus, Saturn, and Mars having been separated from the parent mass, the ring which formed the earth was detached. The planets have continued to revolve in an orbit that marks the periphery of the parent mass at the time they were separated from it.

The process of cooling and condensation was repeated by each individual planet in turn. And when the accelerated rotation overcame the influence of gravitation, rings were thrown off from them in the same manner that they were separated from the original mass. These rings revolved about the planets until they reached a velocity that overcame the force of gravitation, which caused them to rupture, and they were formed into moons. In the case of the large planets the cooling process did not reach the point of liquefaction until the rotation had become sufficiently rapid to detach several rings, hence,

they have more than one moon. The earth being smaller threw off but one moon, and then became too rigid to repeat the process. And the smaller planets attained the rigid condition before they acquired velocity sufficient to detach their periphery.

The rapid loss of heat which the cosmical vapor underwent produced a rapid contraction in the volume of the earth. The more volatile substances were gathered in dense clouds at the outer surface, and as these atoms cooled by radiation into space without, they combined with each other and were precipitated in rain into the seething mass of fiery mist, where they were absorbed in the increasing nucleus. All the solid substances of the exterior vapor were at length condensed and precipitated themselves, and became a part of the nucleus. As radiation progresses the vaporous matter of the surrounding atmosphere and substances maintained in the gaseous state by extreme heat gradually become disengaged from the luminous mass, and precipitate themselves on the nucleus. The aqueous vapor and more volatile substances gathered in a dense mass of clouds at the outer surface of the atmosphere, and poured in fierce corrosive rains upon the heated nucleus, combining with it a part of the substances, the rest being thrown off in vapor to fall again. The earth in this stage of its development was a void and desolate mass. And darkness settled upon the vaporous deep, and continued through long ages.

Within the mass the force of gravitation brought the particles together in a denser molten globe. And there follows the nebulous condition, that of an incandescent molten globe surrounded by a vast aqueous vapor. As yet no water exists on the surface of the earth, that which

has fallen with the minute particles of matter was thrown off again as vapor. All the water that now rests upon the earth and pervades the atmosphere was in a vaporous form extending about the earth to an unknown distance in the surrounding space. The earth was a glowing molten globe for a long period of time before any crust could be formed upon it. The high temperature of the earth gradually decreased through radiation into space, and was slowly cooled by falling rain. The falling rain and radiation at last gained the mastery over the heated surface. A crystallization of the least fusible elements and simple compounds eventually took place in the outer portions of the molten mass forming a lava-like crust. But even after a tolerably continuous crust had formed, volcanic outbursts must have been frequent and stupendous. As refrigeration continued, the crust resting on this molten mass gradually became more stable. The fire is now confined within the crust and there falls upon the blackened crust the increasing aqueous and acid rain from the atmosphere, forming at last a universal ocean of boiling water which covers the face of the globe. The greater part of the watery vapor suspended in the atmosphere is now condensed into the heated ocean resting on the solid crust.

La Place based his theory of the original gaseous condition of the solar system on the relation of the planets to each other and to the sun, on the planes of their revolution, and the direction in which they revolve. This brilliant hypothesis, that science has advanced for the uniform translatory motion of the planets, agrees in a remarkable manner with certain facts in the subsequent history of the earth as disclosed by geology. By this

hypothesis we trace the earth back to a molten sphere, the molten sphere back to a gaseous globe, the gaseous globe back to a central sun, and the central sun back to a diffused nebula occupying vast space. This is, as a matter of course, all the result of speculation, and may or may not be true, but, as it is the best explanation that science is able to furnish, we may as well accept its truth until something better is suggested to take its place.

II.

The oldest condition of the earth known to the science of geology was when the continents were submerged, and there was a universal ocean covering their surface. The data of the Archæan era are not abundant, but they are sufficient to give us a pretty clear conception of the condition of the earth in that age and the forces that were operating in producing changes in the earth's crust. The molten interior of the earth continued to shrink, and in the course of time became too small for the enveloping crust. The nucleus in the process of solidification would continue to shrink, and the shrinkage would cause rents in the surface. The waters of the surrounding ocean would flow into these fissures, and a great force of steam would be generated which would cause an eruption, and the first great break in the earth's crust would occur. In these great fissures, where the crust had been rent by this eruption, the heated waters of the universal ocean poured themselves, and they became vast sunken areas in which the waters of the ocean were gathered, while from the intervening ridges, which were raised up when these

areas sank down, the earth's pent up fires belched forth molten lava and volcanic ashes. In this way the first dry lands probably appeared, and the ocean beds were formed.

These facts seem to be established from the nature of the rocks of this era, for they are all igneous. When the upheaved igneous rocks rose above the waters of the universal ocean, whose waters had rolled in mighty waves, hitherto unobstructed, around the globe, lands were formed though they were at first entirely barren. But the rains fell in vast abundance from the overhanging clouds, streams were formed, and the age-long processes of erosion and sedimentation began. The heated waters, thick and turbid with earthy and saline matter, with the moist and hot atmosphere that then prevailed, carried on chemical changes with an intensity now unknown on the surface of the earth. The formations of this era, the early complex masses of highly crystalline rocks, most of them igneous, are the oldest rocks preserved to us. They may not be the parts of the first crust that was formed, as we now find them, for they have suffered such prolonged and severe metamorphism and been subjected to so many disturbances, that it seems hardly possible the early crust could survive all these vicissitudes. The foundation masses have been, in the course of time, cast up higher than the stratified rocks. Some of these rocks have either lost their load of sedimentation by denudation, or they were heaved up before there was any sediment deposited upon them. And some of the rocks were still the floor of the ocean when the oldest sediments were accumulated on them, and some subsequent revolution has raised them

with their load of sediment above the level of the sea. These rocks underlie later rocks everywhere.

The early crust received a covering of bedded rocks from the extensive erosion that was in progress in the earlier era. Sedimentation went on with great activity, sediments were deposited over the ocean beds, while the volcanoes were vomiting forth molten matter from the heated interior. The sediments accumulated in vast layers at the bottoms of the seas, and these accumulations were solidified. But marine rocks can not form lands during their deposition, for this can take place only after their upheaval. The accumulated oceans pressed heavily against the slopes of their rocky beds, and the sediments of the past age weighed down the ocean floors with a burden that easily outweighed the crust which bridged the hills. And at last the tension became too great to be long maintained without a breaking up of the crust. The process of refrigeration continues, and the heated nucleus constantly loses its heat and shrinks in size until it has gradually shrunk away from the enveloping crust. Finally the process of shrinking has advanced so far that the crust was left unsupported, and with terrible earthquake throes the crust sinks down and wrinkles upon into large ridges. In this way the second great collapse occurs, the ridges are higher raised, and the valleys deeper sunk. In this upheaval of lands the continent of North America was roughly sketched by the upheaved crust, and the new world after all is the older world.

The rocks of this era form the most ancient axis of the Appalachian Mountains. Other belts of these rocks extend from the New England states as far as New-

foundland, and they also underlie the Rocky Mountains to considerable extent. Patches of them are found in the Black Hills, in Missouri, and as far south as the state of Texas. This second revolution came at the end of the Algonkin era, and introduces the next era, that of the Paleozoic.

With the beginning of the Paleozoic era the records of the changes in the formation of the earth are comparatively full, and consequently much easier to read. In the beginnings of the era there were islands of earlier formed lands roughly tracing the future location of the continents. Very general upheavals had taken place and the waste was laid down to form the foundations of the Paleozoic systems. The Cambrian period, the first period of this era, was one of sedimentation. Fine sea muds were accumulating in the deep seas, but the sedimentation was commonly coarse and fragmentary, showing that they had been deposited in the shallow waters of the seas near the borders of the land. The rocks consist of shales, sandstones, conglomerates, and occasional limestones.

The Lower Silurian was, to begin with, largely a limestone making period. But toward the close of the period there were mountain buildings and extensive additions to the growing continents. In the eastern part of North America there were extensive geological changes. As the period came to a close the sediments that had been gradually accumulating were upheaved, crumbled again, and were upheaved once more. By this upheaval of the earth's crust the Taconic Range, including the Green Mountains of Vermont, was formed. And at the same time the pressure affected the regions of the Mississippi Valley, raising a broad low island out of the waters in

the midst of the inland sea. Another throe of the earth lifts still higher the germinal ridges of the continent, robs the sea of a strip of its dominion, and closes the record of the Lower Silurian.

There now follows the period of the Upper Silurian, which is an epoch of vast sedimentation and great quiet. This was a time of quiet in which the sedimentations were forming rocks, such as sandstone and limestone, of great thickness. The rocks that were formed during this period are several hundred feet in thickness, showing that they must have been a long time in accumulating. The development of the continent was similar to that of the former period, but was of a vaster extent. But at the close of this period the continental plateaus were almost wholly submerged under the waters of the oceans. No previous marine limestone spreads more widely than the Upper Silurian, and in no period is there much less evidence of dry land. The small remains of land at the close of this period were apparently limited to a group of islands in the northeastern part of America and the northwestern part of Europe.

The next period, the Devonian, was one of transition and change. Indications of an unstable condition of the earth's crust began to manifest themselves. The immense accumulations of Silurian sediments had by this time so overweighed certain portions of the crust of the earth that there was an upheaval of the crust. New lands were lifted up, great, muddy, and sandy flats were deposited around them, and on the margins of these shallow flats stretched extensive swamps. This was also a period of great igneous activity. Volcanoes poured out their molten rocks over the land and into the sea, and

ejected huge dikes of trap-rock into newly formed beds of sediment. The lands were shaken with earthquake throes, and were subjected to many upheavals and subsidences. Violent waves destroyed the coasts, tearing away newly formed beds of deposits and throwing up sands and gravel over the flats.

A remarkable feature of the Upper Devonian is the immense quantity of the red rocks in its deposits, especially the red sandstone that is contained in them. Red sandstone is an infallible sign of rapid deposit, and therefore of active physical change. These red rocks of this period are thousands of feet in thickness, showing that aqueous depositions were going on for a great length of time and denuding vast areas of land surface. Consequently, we have proof of vast changes of level, and of immense and rapid denudation. The closing convulsions of this period upheaved the lands still higher, and paved the way for the more nearly continental conditions of the Carboniferous period that succeeded it.

At the beginning of the Carboniferous period there were many large islands and chains of islands which were raised out of the sea by the re-elevation at the close of the preceding period. As the age wore on the continents were slowly lifted out of the surrounding waters, and the great continental plateaus were changed from coral seas to swampy flats or low uplands. After a lapse of time, during which only slow and gradual subsidence occurred, a more rapid subsidence took place. The rapid settlement of the continental areas brought the greater part of the fertile plains of the coal formations again under water, and shifting sands and muddy tides engulfed and buried the remains of the old forests, and heaped on them

a mass of sediment which flattened them into coal beds. And by another general uplift of the continent, a sea area becomes a marsh, or region of swamps and low lands. The climate is warm and moist and forests develop in great luxuriance on these low lands. Trees and ferns grow in great abundance, and reach a gigantic height and size that perhaps has never since been equaled. After a time of greater or less extent a subsidence ensues and the waters encroach upon the land once more, and the new vegetable layer is covered with mud, then a greater subsidence carries these regions into deeper waters where marine life flourishes, and a layer of limestone is formed over them. After a time fresh elevations bring the bottoms of the seas to the surface, and the coal swamps are renewed. The frequent oscillations of the coal period were doubtless the result of the tremblings of the strained crust pushed to the verge of violent rupture. The areas of land are pushed above the waters and the tension is relieved for a time, and then they again sink beneath the waves. This process is repeated many times over during this period. And at the close of the Carboniferous period the immense swamps and low forest-clad plains, that occupied the continental areas of North America, again sank beneath the waves of the sea, and this epoch was overflowed and perished.

The Carboniferous was followed by the terrible Permian period, which marked the death of one era and the birth of another. This period has often been passed over as of little importance by geologists, and has been placed by some as the closing epoch of the preceding period. But it is a distinct period, and deserves to be given a prominent place in the study of geology. The importance of a

period can not be measured by the extensive deposits that have been made during its continuance, which most geologists regard as of chief importance, but by the alterations and changes in previous formations. And the Permian is a period of great interest because of transition from the old to the new. The earth's crust was subjected in this period to some of the grandest changes that have occurred in the entire course of geological time.

The nucleus of the earth had shrunk away once more from the crust that enveloped it. In the former period the frequent upheavals and subsidences indicated that the crust was strained to its utmost tension. And the crust being no longer able to withstand this strain, it suddenly collapses, destroying the crust and throwing up lofty mountain chains. The greatest upheaval was in the eastern part of this continent. One grand convulsion rolled up the Appalachian Mountains, and has been for this reason called the Appalachian Revolution. The accumulations had increased greatly during the era and had become of vast thickness, and when the crust finally gave way under this great load, the change was one of vast extent. This catastrophe of the Permian period was the most far-reaching change in the earth's crust that had occurred up to this time. There was a tremendous transfer of materials following this break. In England and Germany, the rocks of this period lie on the upturned edges of the preceding Carboniferous beds. The earth's crust was thrown into a series of folds in the Carboniferous formations, and the tops of these folds were worn away before the Permian beds were deposited upon them. The magnesian limestone that was deposited in this period, lies immediately over the bent and denuded edges and

surface of the Carboniferous strata. A proof that great denudation must have occurred before this limestone was deposited.

In the Mesozoic era the principal land-making and formation of mountains was in the western half of this continent, with the exception of a strip along the Atlantic and the gulf coasts. The Triassic period was one largely of sedimentation. The thickness of the rocks of this period in the state of Connecticut is from five to ten thousand feet. There were extensive land areas and inland seas, and tremendous outbursts of igneous activity along the margins of the continents. And there was extensive denudation from the lands thrown up in the Paleozoic era. The strata thus formed are intermingled with sheets of lava, which were poured out at intervals during the deposition of these beds. The climate was probably cold, and there were glacial actions in the eastern portion of North America. There are somewhat extensive beds of Triassic rocks extending from Kansas to Texas, and west to California. The slabs and pillars of the Garden of the Gods are regarded as belonging to the formations of this period. There are also beds of red rocks somewhat extensive, reaching from Colorado to California, indicating rapid land denudation. And there are also found in these rocks in the far west some limestone of marine formation, showing that they were formed in the deep waters of the sea.

In the Jurassic period land deposition continued. A great series of rocks had been accumulating on a sinking sea floor, precisely as took place in the eastern interior sea during the Paleozoic era. The pressure at length became so great that it made itself felt in the crushing

and folding of the earth's crust. And the Sierra Nevada Mountain Range was upheaved. This has been called by geologists, the Sierrian Revolution. It is thought that the Coast Range of California was thrown up at the same time. The lands at the close of this period were, perhaps, more extensive than they are at the present time.

During the early Cretaceous period the land was high, but as time progressed there was great subsidence everywhere. There was a slow subsidence of the large part of the earth's surface, and the waters laved the base of the loftiest mountain peaks. The Rocky Mountain nucleus was reduced to a group of islands. The continents sank as they never had sunk before since dry land was first elevated. This great and exceptional subsidence was so widespread and deep that it brought the continental plateaus down into the abysmal depths. This subsidence was different from the disturbances that ended the Paleozoic era. There was at first no breaking of the crust of the earth, but merely a slow and long-continued sinking of the continents, followed, however, by breakings of the most stupendous character, causing the formation of the greatest mountain chains in the world. By this revolution the Rocky Mountains, the Andes, the Alps, and the Himalayas rose into importance as great mountain systems. The chalk formations that chiefly characterize this period were deposited in the abyss of the oceans. And they now cover the tops of the highest hills, and are hundreds of feet in thickness. These facts go to show that there has been a revolution in the earth's surface of the most stupendous character.

It is probable that the crust of the earth had become so thick and firm that it would stand a long time after

the molten interior had shrunk entirely away from it. And the shrinking of the nucleus having become so great there is a vast space left between it and the enveloping crust, and by a bending of the crust there is extensive subsidence, but when it finally breaks there is a tremendous upheaval which throws up the great mountain ranges of the earth. This vast revolution probably did not occur in a single day, but nevertheless, geologically speaking, it was very rapid. It was so sudden that it marks the boundary between two great eras in the history of the earth. By this revolution the Mesozoic time was terminated and the Cenozoic inaugurated.

This great revolution that uplifted the continents at the close of the Mesozoic era elevated the Cretaceous deposits to a height of ten thousand feet upon the mountain tops. And something of its vastness can be grasped when it is remembered that the chalk formations were formed at an abysmal depth in the oceans. The continents were outlined by this upheaval into something of their modern form, but they were of greater extent in the Tertiary Period than they are at the present time. In the Miocene epoch there was a vast surface of land under a mild climate, clothed with a rich and varied vegetation. This on the whole was a better age than the one in which we now live. The Pliocene was an important epoch for giving the finishing touches to the continents. There were extensive earth movements, ejections of igneous rocks, and an increase in the irregularities of the earth's surface. There was a continental epoch of long duration, elevation of lands, erosion of the surface, and volcanic action. In the Eocene epoch much land in the western part of our continent was under the sea, there

having been a subsidence at the beginning of the period. There were marshes and inland seas, but in the Miocene the extent of the land was much greater, though large areas of lands were still under the sea. The Pliocene inaugurated what has been called a continental period, when the land was higher and more extensive than at the present. The climate was considerably warmer than in our day. There was a tropical climate in the far north where there is now a perpetual reign of ice and cold. In the Tertiary Period the continents have reached their complete forms, and the climatic conditions are at their best.

III.

One of the most noteworthy periods of the earth's history was the Quaternary. The development of the continents had been up to this period by subsidence and re-elevation of the lands, and the dry land by these agencies had reached a high state of development extending over a larger area than now exists. The earth was now completed, and the forces that produced the earth are not so prominent in its further development. These agencies did not cease to operate, for they may have been the leading factors in the ice age in producing the changes in the continents that caused the glaciers to move forward and carry on their work of devastation. But the continents had reached their highest perfection in the preceding period, and the future changes are in the earth's surface rather than in the disruption of its strata and the upheaval of the crust into extensive folds. It is difficult to estimate the number of changes that took place in the

earth in this latter period. But there were at least two great glacier epochs, one of which was more extensive than the other.

For some reason the climate of the earth underwent a sudden change. The cold kept increasing till it reached its maximum in the glacier period. There was perhaps at this time a subsidence of great extent during which the lands were sunk beneath the waters of a cold sea. The continental plateaus remained under the icy waters doubtless for a long time. At length there came a change, the lands were again uplifted, and the glaciers began to move across the continents, ploughing up the ground and cutting into the lands, making the valleys and carrying away huge boulders. The sliding movements of incalculable tons of ice ground the rock surfaces away, breaking off huge boulders from the extending cliffs of rocks, carrying large quantities of pebbles and sand, and strewing them along their course. For long years the mighty mass moved forward, mowing down forests, cutting terraces out of the hillsides, and carrying immense loads of dirt and stone onward.

A subsidence followed and vast regions of the northern parts of the continents were covered with water. The streams began to flow towards the sea, carrying down with them a freight of sediment, which had been borne down by the glaciers, and strewing it over the lands that had not been visited by the glaciers. Much that the land had gained by its numerous revolutions was apparently lost. But this deep subsidence was not of long continuance. The continents rose again from their deep sea burial. But pauses of great length were made in the resurrection of the continents, and waters stood hundreds

of feet deep where populous cities now stand. As the lands rose out of the waters they were greatly and rapidly modified by the erosion caused by the rains and streams. The erosion caused by these agencies was enormous in comparison with anything we now experience. The rainfall was excessive and the volume of water in the streams very great, and the facilities for cutting channels in the valleys filled with mud was unprecedented.

Probably a cold wintry climate was introduced at the close of the Pleistocene epoch along with a gradual subsidence of the land. This Glacial period was one of the most dismal of the epochs of the earth's development, but it is difficult to locate the exact time of its occurrence. At this time much of the low lands of the continents was submerged, and the mountains were covered with snow and ice. The British Islands, Northwestern Europe, and a part of Asia were under fields of ice. This was one of the most destructive and sweeping catastrophes in the earth's history. The glaciers of this epoch have left their marks on hill and mountain sides, and left their tonnage of rocks and boulders, sand and gravel, deposited extensively over the more temperate latitudes. And that these changes from a warm tropical climate to the extreme cold, which produced glaciation, came with great suddenness, is shown beyond a doubt by the fact that the large mammals such as the mammoth, were destroyed without having had time to migrate to a warmer climate. These animals are found in the frozen ice and ground with food undigested in their stomachs, proving conclusively that the change came from a warm climate to a cold Arctic climate with extreme suddenness.

The early recent epoch was a time of great continental elevation in which the lands spread themselves widely over the now submerged margins of the sea basins. The British Islands were connected with Ireland and the continent. And possibly the New World was connected with the Old World by a lost continent, or by a series of islands that occupied the shallow portions of the Atlantic. Connected with this elevation of the continents out of the sea was a great change of climate. The cold passed away, and a milder climate over spread the Northern hemisphere. The newly raised lands became clothed with a rich vegetation, and were occupied by gigantic quadrupeds. But the lands underwent another subsidence before reaching their present limits. The earth has been subjected to a revolutionary change, comparatively speaking, not very far back in its history. This revolution engulfed portions of the dry land, and elevated parts of the ocean bed converting them into dry land. And when this revolution was ended our present continents stood forth, practically, in their existing proportions.

And when we study the surface of the earth as it is at the present time, it is manifest that the continents have not reached their present form and extent by any gradual process of development. The continents rise gradually on one side from the shore of the sea toward the interior to a line of highest elevation of the lands. In all of the continents the line of greatest elevation is placed out of the center on one of the sides at an unequal distance from the shores of the ocean. From this fact we have two slopes of unequal length from the sea shores. In the Old World the long slopes are turned toward the north, and

the short slopes toward the south. In the New World the long slopes are toward the east, and the short, abrupt slopes toward the west.

The earth's surface is scarcely anywhere a gradual transition from plain to mountain, but almost everywhere it is sudden and abrupt. There are lofty mountains, table-lands, extensive plains, and low valleys which mark the surface of the earth. Continents differ in extent, in forms of contour, in structure, and in direction. A continent is lifted here into the frozen regions of the Arctics, and is sunken there into the desert's burning sands. The mountains did not begin as mole hills and gradually evolve into their present form. These mountain peaks that tower up toward the clouds, kissing the sky, did not reach their present lofty heights by gradual development through endless years of time, but were thrown up by some mighty convulsion of the earth. The most ancient chains of mountains are the least elevated, while the more recent mountains are of colossal height. And this is not because the more ancient mountains have given their soil to enrich the valleys, though some of the mountains are not as high by thousands of feet as they once were, but because the recent mountains were thrown up higher when they were first formed.

The southern points of all the continents are high and rocky, and seem to be the extremities of mountain belts, which come from the far interior of the continents, and suddenly break off abruptly at the shore of the sea. South America terminates in the rocky precipices of Cape Horn. Africa ends with the cape of Good Hope with its high plateaus, which rise to a height of several thousand feet above the level of the ocean. Asia ends with the penin-

sula of Deccan, which sends out the chain of Ghats, forming the high rocks of Cape Comorin. Australia culminates abruptly at Cape Southeast, on the Island of Tasmania.*

Large islands, or groups of islands, are situated on the east of the southern point of the continents. And there is a deep bend in their western side toward their interior. These conditions are probably due to some great inundation coming from the southwest, and dashing against the side and point of the continents, which scooped out these great bends, swept off the movable material from the southern end, and left nothing standing except the rocky points that form the skeleton of the continents. As this great inundation dashed in all its fury against the sides of the continents, the materials composing the continents were ground away, and the rocky points where the mountain chains, coming from the interior, extend, are left exposed. The islands on the east of these points were probably formed by the accumulations of the ruins of the continents, or are the parts of the continents that remained after the catastrophe was over, having been protected by the jutting points of the continents from complete destruction.

Each of the continents has undergone great physical changes. The infinitely diversified conditions of the earth's surface are everywhere manifest. A glimpse of the continents of North and of South America reveals the most diversified conditions of surface and contour. There abound torrid districts, arid deserts, lofty mountain peaks, grassy plains, low marshes, extensive forests,

*The Earth and Man.—Guyot.

deep lakes, and broad rivers, under almost every temperature. Everywhere on the continent of Europe the surface is cut in almost every direction by mountain chains intercepting each other. The configurations are diversified to such an extent that the observer is convinced that these diversified conditions have come about by earthquake throes and mighty upheavals of the surface by the pent-up forces within the interior bursting forth and venting their rage on the earth. The high regions of Asia, mountains and plateaus, cover five-sevenths of its surface. And in America, the long and lofty barriers of the Rocky Mountains and the Andes, extend for thousands of miles along the western coasts of the continents, while on the eastern half of these continents vast plains are interspersed with mountain ranges of less elevation.

Africa, south of the Sahara desert, appears to be only an enormous pile of uplifted table-lands. The high regions cover two-thirds of this continent. The channel of the Congo river has been found by soundings to extend for over a hundred miles into the ocean, showing that the continent has been recently submerged, and that it is of much less extent now than it was in the recent past. There have been earth movements on a colossal scale in this continent, with long lapses of time between them. There have been discovered here the loftiest mountains, the greatest and deepest lakes, the highest plateaus, and a marked corrugation of the earth's surface in parallel lines of hills, ridges, and valleys. Portions of the lands have subsided forming profound chasms several thousands of feet in depth which have filled with water. As an example of the profound depth of these chasms, it has been ascertained that the bottom of Lake Nyassa is seven

hundred and seventy-eight feet below sea-level, while the surface of the lake is fifteen hundred feet above the level of the sea. This line of subsidences and upheavals extends for a distance of fifteen hundred miles across the continent. And, overlooking this singular line of lakes, there are piled up the loftiest mountains, some of them extending almost three miles in vertical height above the lake abreast of them. These mighty fissures in the rocks and gigantic mountain peaks were formed by some stupendous upheaval of the surface of the earth in geological ages past.

IV.

If the nebular hypothesis of La Place is true, and it probably is, it is in perfect harmony with the theory of revolution. Instead of there being one universal law in nature, as is commonly held, we have called attention to the fact that there are three great laws, revolution, evolution, and degeneration, which operate in nature. And all three of these laws were employed in the development of the earth from nebula.

Granting the nebula, the motion, and gravitation, the bodies of the solar system may be accounted for by this hypothesis. And it may be possible for the planets after they had been thrown off in this way to persevere in their orbits by means of the laws of gravitation and motion, but it is impossible for them to have originated in this way. There must have been some power back of the nebula, the gravitation, and the motion, to account for their existence. But granting the truth of the nebular hypothesis, with a cause back of gravitation, motion, and

nebula, there could be no better illustration of the operation of these three laws of nature.

The fiery nebulous matter, as it revolves in space, constantly loses its heat, and as a result of this loss of heat there is a contraction of the mass and an increase in the speed of the rotation. When the velocity has reached an acceleration sufficient to overcome the force of gravity, a ring is thrown off by revolution. The ring continues to rotate around the parent mass until the oscillations to which it is subjected causes a break, and the materials are gathered into a gaseous globe. And this same process is repeated over and over until our solar system is produced. The evolutionists see in the nebular hypothesis nothing but the operations of the law of evolution. But there is not only development here, but degeneration and revolution. And the process of revolution by which these rings are thrown off from the parent mass and disrupted is certainly as important to the theory, as the gradual development of the speed of rotation until the centrifugal force overcomes gravitation. In refrigeration there is degeneration, in the acceleration of motion there is evolution, and in the sudden throwing off of the rings and their disruption, there is revolution.

Geologists have deciphered with remarkable fidelity the records of the wonderful history of the earth's development. And even a superficial study of the facts set forth by geologists must convince the candid reader that the earth has not reached its present state of development by the slow degrees of change that the theory of evolution involves, but he must be convinced that there are other laws of equal if not greater importance, which

have been employed in producing changes in natural phenomena.

Cycles of repose and activity have succeeded each other in the formation of the earth. These have been of different lengths, some have been far-reaching in extent, and others have been less extensive. But it is plain that periods of depression and upheaval have been common to all the continental masses, and that they have succeeded each other at somewhat regular intervals. But beyond and above these epochs there is another grade of geological revolutions which are marked not merely by gradual elevation and depression of the continental areas, but by vast crumblings of the earth's crust and far-reaching changes of level. There is abundant evidence of such mighty breakings up, twistings, contortions, and upheavals of the earth's crust between the Archæan and the Algonkin, and between the Algonkin and the Paleozoic, between the Paleozoic and the Mesozoic, and between the Mesozoic and the Cenozoic. These were not all of equal magnitude, but they were distinct enough, even in the beginning, to mark the distinction between these eras and the lesser periods of change.

The immediate cause that produced these changes seems to have been the gradual bending of the earth's crust, producing the distinct periods, and the sudden breaking of the crust, causing the greater changes that mark the distinct eras in the history of the earth. The probable cause of these bendings and breakings of the crust was the enveloping shell becoming too large for the shrinking nucleus. The inner support being removed in this way the crust would bend and finally break toward

the center. A bending or a breaking of the crust in one part of the earth would cause an upheaval in some other part. And for this reason there would be periods of comparative quiet, followed by periods of rapid change. During these periods of comparative quiet the forces were accumulating that later on produced the sudden changes. And usually the change is preceded by deterioration and subsidence, rather than by progressive change. The growth of the lands after each revolution is the result of the erosion of the hills and mountains which is carried down by the streams. The sediments accumulated at the bottoms of the oceans until their weight with that of the water caused another break in the crust with its corresponding upheaval. These movements must have depended on the slow contraction of the earth's crust, due to the gradual cooling of the interior, but the effects would not manifest themselves owing to the strength and resisting power of the crust except at great intervals of time. These sudden cataclysms were, it seems, the result of the gradual accumulation of natural forces. But these natural forces did not accumulate by a process of evolution, on the contrary, they were the result of degeneration. There was a shrinking of the interior nucleus on account of refrigeration, and erosion was very rapid, so that sediments in vast abundance were carried into the sea. And after a long period of time the shell being unsupported, and the accumulated sediments weighing it down, at last it breaks, and there is a fresh upheaval of the lands. In this way every new revolution is new progress, one elevation is added to another, one surface after another emerges from the waters to increase the dry land. Cyclic changes occur in the history of the formation of

the earth, but with many a temporary lapse and ebb. The continents sink and become ocean beds, and ocean beds are lifted and become continents, and thus the earth by subsidences and upheavals, has attained its present form.

The formation of the earth in phelihistoric times is marked off into periods and eras by physical revolutions, much in the same way that advance in civilization is marked off by its revolutions in historical times. The subdivisions of geological time are marked by general and local changes, but the great eras are distinguished by what may be called universal revolutions. Unmistakable evidence is found of long-continued periods of physical quiescence which were followed by upheavals and foldings of the earth's crust. The causes, long and quietly operating, prepare for changes, sudden and of vast extent. Geological time has consisted of alternations of long periods of repose, slow subsidence, followed by sudden upheaval. And these have followed each other somewhat in the order of succession. Repose has been followed by revolution, and revolution by repose. The formation of the earth has not been by an instantaneous process, but has extended through ages of vast duration. Every previous stratum in the earth's formation was used as a support for the next. And each succeeding story of the earth was built on the one previously prepared for it.

The changes by which the earth has been developed have been on a vast scale, and have occurred, geologically speaking, with very great suddenness. The physical revolutions that mark the geological history of the earth were undoubtedly more sudden and far-reaching than geologists have been willing to admit. Recent physical changes give us an idea of the rapidity of the changes

in the face of nature in prehistoric times. In 1868 there was a sudden upheaval of the earth on the coast of Peru. Mountains sank into valleys, and valleys were lifted up into mountains in a moment of time. And a great tidal wave carried a ship of the United States navy about thirteen hundred feet above high water mark, where it had to be abandoned. And the recent eruption of Mount Pelée furnishes us an illustration of the far-reaching results of these changes. Millions of tons of lava dust fell on the surrounding islands during the eruption. It is estimated that fifty thousand tons of lava dust fell daily on the island of Jamaica. Soundings have revealed the fact that the ocean bottom near the island of Martinique has sunk down many hundreds of feet since the volcano became active. If such sudden and far-reaching changes take place when the earth has reached its present stability, what vast changes must have occurred in the earlier history of the earth? And they unquestionably took place with a suddenness that can not be conceived by us at the present day.

The successive stages of the earth's history, as disclosed by the science of geology, show that there has not been the uniformity in the formation of the earth that the theory of evolution requires. Evolutionists seem to be unable to recognize any changes in nature, but those that have extended through endless years of time, and have been by slow degrees of advance. The slow process of sedimentation, the abrupt subsidence, and the sudden upheaval of the continents, should teach them that when the old order of things has served its purpose that it passes away, and that the new and distinct order takes its place by revolution.

The study of the geological formations of the strata of the earth and the diversified condition of its surface renders the order of creation, as set forth by Moses, as substantially correct. The six geological eras correspond very closely with the six creative ages. How came the author of Genesis to know the order of the formation of the earth, a knowledge which the scientists have learned only in the last century? If he obtained this knowledge from the Egyptians, it indicates an advance in scientific pursuits among them to which we have only recently attained. If he obtained this knowledge by divine inspiration, it would compel us to admit the truth of the theory of special creation. The only real difference between the position of the geologists and that of the author of Genesis is that they attribute these vast changes that mark off the geological eras to natural causes, while he ascribes them to divine intervention. But it is not inconsistent with divine creation that secondary causes should be employed in the formation of the earth.

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"In most types we find a great number of kinds in their earlier geological history, and they dwindle rather than increase as they go onward. This fact, established in so many cases as to constitute an actual law of palæontology, is altogether independent of the alleged imperfection of the record. Objections of this kind appear to be fatal to the Darwinian idea of slow modifications, proceeding throughout geological periods, and to throw us back on a doctrine of sudden appearance of new forms, occurring at certain portions of geological time rather than at others, and in the earlier history of animal and vegetable types, rather than in those more recent."—*Dawson*.

"Uniformity is not, as some have maintained, the law of evolution. While we may not accept the old cataclysmic theory of progress, yet we must recognize the fact that long periods of comparatively slight change have been followed by times of disturbance and far-reaching changes. Forces that had long been gathering broke over barriers of resistance and inaugurated a new era of progress; or to put it a little differently, progress went quietly on until it was possible for new and higher forces to come in, and give a new impulse and energy to the work."—*Conley*.

"We have descended to the minutest organisms of animal creation, whether manifest in the depths of the ocean or on the surface of our globe, and to delicate vegetable germs which clothe the naked declivity of the ice-crowned mountain summit, and here we have been able to arrange these phenomena according to partially known laws; but other laws of a more mysterious nature rule the higher spheres of the organic world, in which is comprised the human species in all its varied conformation, its creative intellectual power, and languages to which it has given existence. A physical delineation of nature terminates at the point where the sphere of intellect begins, and a new world of mind is open to our view."—*Humboldt*.

THE DEVELOPMENT OF THE SPECIES

IN the geological history of the earth the species can be traced back through successive dynasties, emerging in long processions from the depths of a primitive antiquity. The fossil remains of the species are found imbedded in the successive geological strata, beginning with the fire rocks and ending in the soil on which we dwell. In tracing the record of the earth's life, commencing at the surface, as we examine the older formations, we gradually lose sight of the existing species, and discover the remains of others that once inhabited the earth. These species, as we examine older formations in their turn, disappear, and were preceded by others, which flourish for a time, then perish, and are preceded by still other species. We learn in this way from the study of the geological records that the whole living population of the earth has changed many times prior to the present order of things. Geology assigns to their respective ages all the rocks of the earth's crust, and the remains of animal life found in these strata furnish us the history of the successive species that once flourished on the earth at the time that these strata were being formed.

In tracing the species back toward their origin, we fail to find any evidence that they were the result of the process of evolution, but, on the contrary, they appear at once in their most perfect state, as a rule, and continue until they are forced off the stage of existence to give

place to other and higher creatures. We trace briefly the history of the development of the species that the reader himself may judge by what process they were introduced.

The introduction of life on the earth is shrouded in mystery. Vegetable life, of course, preceded animal life, and made possible this higher type of life by furnishing food for living creatures. But we are much more anxious to know how animal life originated, than to learn how plant life came into existence. It is a difficult matter, however, to determine what the first animal form was like that inhabited the earth. In the oldest strata there are beds of crystalline limestone, and limestone is usually formed in the deep seas through the agencies of living creatures. The first animal form must have been some soft fragile, calcareous secreting creature, that was the active agent in the formation of these beds of limestone. Foraminifera are supposed to have been represented in these primitive seas by Eozoon. The remains of this animal form have been found in the Laurentian rocks. Assuming that Eozoon was a living animal, as in all probability it was, life was ushered into existence as a sort of animated jelly. If the form found in these ancient rocks is the skeleton of an animal, it is larger and more highly organized than any of its successors. It is a gigantic representative of one of the lowest forms of animal life. The Eozoon was large and uncouth in appearance, but it was the greatest and noblest of its class both in form and in structure. This animal lived in the deep sea solitude where it secreted calcareous matter, and built up the Laurentian limestone beds. These animals all perished in their deep sea fastnesses, and not a single individual survived.

1.

There is a vast lapse of time in which no trace of life can be found between the period in which the Laurentian rocks were formed by the secretions of the Eozoon, and the Cambrian period, where the first remains of animal life are found that are undisputed. In the Cambrian period we discover the remains of living forms, and these appear abruptly without any lower forms having preceded them. The oldest and lowest assemblage of fossils, of which we have certain knowledge, is found in the strata of this period. According to the hypothesis of evolution these species should be the simplest possible organisms, structureless, and formless, but in fact they are as highly organized as Trilobites and Branchiopods. At the very beginning of animal life on the earth there is a high rank and a great variety of types.

Trilobites appear in vast numbers in the Cambrian period. There was a preponderance of them in the earliest fauna, and hundreds of species flourished in the Cambrian seas. They were the monarchs of the seas. Trilobites appear suddenly in the geological records. Numerous species of them came into existence suddenly at the dawn of the period, having no forerunners in earlier times. We look for intermediate generic forms, which on the derivative hypothesis must have existed, but we look in vain, for not a single intermediate form can be found.

The headquarters of life in the Paleozoic era was in the sea, and the waters literally teemed with the numerous forms of life. The first appearance of life was not, as we would naturally suppose, in some low forms, but in

the highly developed Trilobites, which appear in hundreds of varieties, and with eyes composed of many facets. There were among these early Trilobites some of the largest in size, being nearly two feet long, and some of the smallest. There were some with numerous joints, and others among them with few joints. There were some with high ornamentation, and others without any ornamentation. The eye of the Trilobite was a curious compound, with numerous lenses similar in construction to that of the common spider. Their eyes were fitted for the same conditions with respect to light with those of existing animals of the same class. Their eyes were fully developed and perfect. These animals continued from the Cambrian in greatly increasing numbers through succeeding periods, but gradually decreased in numbers, and finally perished at the close of the Paleozoic era without leaving any descendants.

The Branchiopods were the most important creatures with shells that appeared in the Cambrian period. They appeared suddenly in great numbers, perfection of form, and in variety of species. They soon multiplied to many hundreds of species, and continued to be a great host in the seas of the Paleozoic era. In the Lower Silurian period they became exceedingly abundant, the waters of the sea fairly teemed with them. They reached a high state of perfection in the Paleozoic era, and are second only to the Trilobites in numbers and importance. And some species of them have even survived to the present time with comparatively little change.

The corals had their birth in the Cambrian period, attained their perfection in the Silurian, and continue in greatest numbers to the present day.

Cephalopods appeared simultaneously in almost all the Silurian formations. They were of different sizes and shapes. Some had the diameter of one's finger and were only a few inches in length, while others were a number of inches in diameter, and several feet in length. Some were coiled, some were curved, but the vast majority were straight. They compare in size to animals in the modern seas. Other mollusks, bivalves, univalves, and chambered shells appeared in great numbers in the Lower Silurian times.

The Crinoids had their origin, attained their perfection, and reached their greatest numbers in the Silurian. And they continue in a somewhat modified form in the deep seas of our day.

There was decline and extinction in the Upper Silurian, with the introduction of new species upon the scene. There were no abrupt and striking introductions or extinctions as there afterward occurred at the close of the old era and the beginning of the new, but the law of development was illustrated by the unfolding of some species, and the law of degeneration by the decline and extinction of others.

Toward the close of the Upper Silurian period we find a new thing in the earth, vertebrate animals represented by several species of primitive fishes. The Ganoids and Placoderms are the earliest examples of fishes. They appeared at once in the perfection of their forms, but not as high in the scale of being as later fishes. They had no ancestral forms in the older strata from which they could have descended, but appeared at once as the monarchs of their class. They built their empire on the ruins of the mollusks. The introduction of fishes clad

in coats of mail were the first and lowest forms of vertebrate existence. There are no simpler forms of fishes than the Ganoids, which came in as the forerunners of the dynasty of vertebrates. Their sudden appearance seems out of place with their surroundings among the representatives of invertebrate life. But they are prophetic of the long and varied reign of vertebrate life, which culminated in man himself.

The advance movement in the Devonian period was in the number and variety of its fishes. They increased greatly in numbers and variety during this period. There swarmed great shoals of fishes of many different species, and some of them of remarkable organization. Some of them were of great size, the length of the greatest being as much as twenty feet. Every new type that was introduced rapidly attained its maximum of development in magnitude and variety of forms. They then retrograded, were exterminated, or remained stationary through subsequent ages. There is no evidence that the fishes of the Carboniferous period were transmuted into the reptiles of the following era.

The Permian and the Triassic are times of transition, when old dynasties and races passed away, and were replaced by new and more vigorous successors founding new empires and introducing new modes of life. The Permian period seems to have been intended to blot out old forms of life, as an arrangement that had been tried and served its end, preparatory to a new beginning in the succeeding age. The life of the Paleozoic era largely terminated with the Permian period. The old species were swept off the stage of existence, and were replaced in the succeeding period by more specialized groups.

Very few life forms that are found in this period are found in the Mesozoic era.

The Mesozoic was peculiarly the age of reptiles. In that era they reached their climax in numbers, perfection of form, and magnitude of species. The reptiles in this age ruled in earth, and air, and sea. There were reptiles in these times gigantic in size, called Dinosaurs, that were of a high organization and ruled as a dominant type. They are said to be by far the largest animals of all time, in length of body and in bulk. In these reptiles we have immense size, great variety of structure, with a low grade of intelligence. The position of these reptiles was near, if not at the head of their class, but they had not been preceded by all the lower order of reptiles. The serpents, which are much lower in the scale of being, did not make their appearance until the Cenozoic era. The reptiles lacked stability, hence they dwindled and perished with the era to make room for higher and nobler types. As these reptilian tyrants were destroyed and disappeared, they were replaced by land and sea animals. No geological change is more striking than the sudden disappearance of the reptiles at the close of the Mesozoic era.

In the Jurassic period, Ammonites appeared in great numbers of species and in variety of ornamentation. Hundreds of species are found, and some of them are of large size, being in some cases two and three feet in diameter. This sudden appearance and high state of perfection was followed by rapid decline, for they all disappeared with the close of the Cretaceous period.

There appeared a few mammals with the reptilian lords of the Mesozoic era as the precursors of the coming age. This small beginning of mammals in the Mesozoic

was prophetic of their complete dominion in a later age. When the monsters of the age disappeared, these weaker and higher animals took their place. They were marsupials, not the highest nor the lowest of mammals. Representatives of them still exist, but they have made little advance. And according to the hypothesis of evolution they have been a failure. At the beginning of the Cenozoic era, terrestrial mammals of a gigantic size and high organization held dominion over the earth. As the Mesozoic had been the age of great reptiles, the Tertiary became the age of gigantic mammals. And the great mammals appeared with the same degree of suddenness that characterized the disappearance of the reptilian monsters. One of those revolutions in nature ushered in the closing stages of Mesozoic time. The conditions of life were changed, all the distinctive types of this age dropped out of existence, and mammals assumed the reins of empire.

In the beginning of the Cenozoic era we meet with a group of mammals, of which few representatives have survived to the present. During the Eocene epoch they increase in numbers and size. In the Miocene are found the perfection of the noblest forms of mammals. In this epoch there are found especially great land animals. But the Pliocene shows the beginning of the decadence of these great mammals. The climate became colder, the conditions more unfavorable, and the large mammals gave place to smaller. And many of these animal species were overthrown without leaving any successors.

The life in the sea in the Cenozoic was approaching that of the present day, as the older species disappeared, and the new species took their place. The land species became extinct sooner than the marine, as they did not

have as perfect an environment, and were in greater danger from sudden changes of climate and revolutions limiting the extent of the land. On the land, mountain barriers were raised up shutting off migration, and the climate was revolutionized, overtaking the animals with intense cold without giving them a chance to escape to a warmer climate. And with these early animals great glaciation came on, while the changes in the sea were wrought more slowly, and there was a much better chance for migration. This explains why the invertebrates that inhabited the sea survived to later times, while the mammals changed from epoch to epoch, and few, if any of them, survived Tertiary time.

There are no human remains that as yet have been generally accepted as belonging to the Cenozoic era. There have been found some remains of man among the fossils of this age, which would seem to establish the fact that he lived on the earth in the closing epoch of this era, but scientists have not been willing to accept these discoveries as conclusive proof of the existence of man at this early date. It may be that the bearing of such an admission on the hypothesis of evolution has unconsciously biased their judgment. On the Ashley River, in South Carolina, the remains of man are found mingled with those of the swine, the horse, the mastodon, and extinct gigantic lizards. The fossil remains of man, found with those of extinct animals that flourished in the Cenozoic, or even earlier, indicate that man had his advent on earth at a much earlier date than has usually been assigned.

The mammalian species of the early Quaternary are distinct from those of the preceding period. There was a

decadence of land animals, the large mammals gave place to the smaller, and the animals of modern times made their appearance. The animals of the period were much larger and more abundant than their descendants of the present age. Elephants of great size were abundant throughout both the old and the new world. With the mammals of this period, man himself appeared upon the scene, if he did not indeed appear in the former period. He stands at the head of living forms, and it is possible that he had his advent into the world before the apes from which he is supposed to have descended. It is admitted by all that man began as one type in a single locality, and that he has since become widely scattered over the earth by migration.

II.

The record of life, as we find it written in the geological strata, is not in harmony with the theory of evolution. The facts, on the contrary, are diametrically opposed to this hypothesis. The appearance of Eozoon lends no aid to the evolution of the animals of one period, by descent with modification, from those of a former period. It appeared suddenly in the full perfection of its powers, and disappeared from the stage of existence leaving no link of connection between it and later foraminifera. The foraminifera appeared at a much later period, and are clearly degenerated when compared with this earlier form. This is in violation of a fundamental law of evolution, that progress must be from the low to the high, from the simple to the complex. The theoretical law of transmutation teaches that Eozoon ought to have been replaced by

higher types of the same organization. But other protozoans are unknown until in the succeeding era. There are therefore, no animal forms revealed as the genealogical successors of this primitive form of life. Its existence is restricted to the period in which the Laurentian rocks were being formed. This is a fact of striking significance. If there ever was a period in all the geological ages favorable to the propagation of an animal type, it was that in which the Eozoon reigned alone in the primitive ocean. It must have been entirely exempt from the terrible struggle for existence, that prevailed in a later age, and is supposed to have exterminated such vast numbers of the most powerful species.

The fundamental principles of evolution do not permit us to imagine that this great primitive agent in building the early limestone rocks, which was at one time in the possession of all the seas of the globe, could have been supplanted and exterminated, except by higher beings, better organized for carrying on the same kind of work. The corals, animals with the same functions, should have descended from and survived the Eozoon. And after the struggle for existence, in which the protozoans perished and the corals survived, the corals should have, in their turn, reigned supreme in the abysses of the primitive ocean. They should have built up calcareous masses of equal magnitude, at least, with those constructed by their progenitors. But, alas! it is quite otherwise. There was a total absence of corals in the primitive seas. They do not appear until the following era, and not even then until animals of a much higher type have appeared.

According to the doctrines of evolution, the step from Eozoon to corals was the first to be taken in the process

of development. But following this primitive form there was an immense gap in which there is no evidence of life whatever in the geological strata. The descendants of Eozoon ought to have flourished in all imaginable forms and varieties during this period. But the absence of these forms of life from the following period constitutes an inexplicable discordance between the assumptions of evolutionists and the geological facts. Corals rank next above protozoa, and are closely related to them in structure and function. And it would appear to be but a step to take in the path of transmutation to pass from the former to the latter. But there is no evidence that this step was ever taken. And this is entirely out of harmony with what we naturally expect from the teachings of evolution, that the corals are not found succeeding Eozoon in the primitive seas. There is a break at the very beginning of animal life that is fatal to the theory that the species have been gradually developed from the lowest forms to the highest.

It does not matter whether evolutionists accept the evidence furnished for the existence of this low type of life at the beginning of life or not. If Eozoon was not the first form of animal life, the case is all the stronger against the hypothesis of evolution. The first forms of life did not, as we should expect, according to the theory of evolution, begin as some low fragile form, but in the more highly developed Trilobites. There was an abrupt appearance of living forms in the Cambrian period. If we accept this period as the one in which life began, we have among the first animal forms, a large preponderance of animals, as high in the scale of beings as Trilobites. Prior to the Cambrian period there has not been discov-

ered a single trace of these crustaceans, but in this system they make their appearance in great numbers. The first appearance of such a vast number of Trilobites at this time has an aspect of suddenness in total disagreement with the theory of evolution.

There are facts in the early geological records of a damaging character to the theory of evolution. In the Cambrian period we obtain a vast and varied accession of living forms, which appeared at once, as sudden and simultaneous productions of various kinds of animals. There is a succession of new forms, distinct as species, but not perceptibly elevated in the scale of being. In many cases the successive dynasties of life manifest degeneration rather than development. Among the Trilobites there is an inverse order required by theory. The successive stages of animal development are characterized by gradually increasing numbers of thorac segments. This order, according to the law of evolution, indicates that Trilobites with few segments occupy a position between those with numerous segments. Accordingly the genera with few segments should precede in time those with many, but the reverse of this is the exact fact. The Branchiopods appeared in great numbers and variety in the Cambrian. Their appearance is sudden and simultaneous, in direct contradiction to theory. But nowhere in this period do Acephals, the class of mollusks standing next above Branchiopods, appear in this fauna. They are higher in the scale of being, but they are not found until much later.

When we consider that Trilobites and Branchiopods underwent a gradual diminution to give place to lower forms, we recognize the fact that it presents an order

diametrically opposed to that which we naturally expect, and which the theory of evolution requires. Evolutionists attempt to explain away these facts by claiming that the humbler ancestors of these forms did exist in an earlier period, but that they have been destroyed by metamorphic agencies. They contend that if we had more perfect records the line of descent would appear. But this is a begging of the question. We must take the records as they are, and not as we imagine they should be. It is not reasonable to suppose that the immediate ancestors of the Trilobites and Branchiopods should have perished without leaving a single trace, when other animals no more fragile have continued from almost that time to the present. These animals, had they ever existed, most certainly would not have all perished, leaving not a single trace of their existence behind them.

There are forms of life in the Silurian period which can not be traced back to the Cambrian, that relate to new forms of life, for which the unaided powers of animals of the earlier period could not have provided. Cephalopods appeared suddenly and simultaneously in all Silurian countries. Pteropods appeared before the first advent of Heteropods, a lower type by the whole duration of the primordial fauna. This is clearly in adverse order to the requirements of the hypothesis of evolution. And the simultaneous appearance of so many different forms upon the horizon of the second fauna is irreconcilable with the theoretical laws of development by invisible gradations. There are no remains of living forms from which they could have been derived.

Much has been made of the fact that there have appeared, from time to time, in geological history what

have been called prophetic forms. These have been pointed out as proof of the theory of transmutation of the species from the lower to the higher forms. But it is not in accordance with the hypothesis of evolution that the more perfect forms of life, as in the case of fishes and mammals, arose in the time of more imperfect forms by gradual transmutation. These prophetic forms appeared suddenly, not by the survival of the fittest, for the unfit were in full power at the time of their advent. And the most of these old forms were destroyed suddenly some time after these new forms were introduced. To harmonize with the theory, the new forms should have had their advent as the old forms passed out of existence. And the gradation is also wanting which would show the transmutation from these prophetic forms to the higher forms of life. It is assumed that because these lower forms appear in the geological records that the higher types must have been developed from them. But the assumption is wholly gratuitous. There are distinct breaks between these prophetic forms and the higher types that appear in the succeeding formations that can not be bridged over.

The destruction of the reptilian lords at the close of the Mesozoic era, contrary to theory, was not by the overmastery of the mammals. Their overthrow was due to two causes, the instability of constitution and change of environment. The reptiles had reached their highest development, which is always the forerunner of extinction. Degeneration had already begun its work of destruction, and, when the revolution came at the close of the era, they were swept off the stage of existence.

Judging by the known facts as they are found in the

geological records, rather than from the hypothetical facts, we learn that the varied forms of animal life did not come into existence by gradual transition through infinitesimal changes from primitive forms. There is no real evidence of transition from one species to another. The fossil remains of the numerous species of past ages reveal the fact to us that many species were simultaneously and successively introduced, but nowhere is there evidence of gradual transition from one species to another. There is no geological evidence to show that the lower species were evolved into the higher. Organisms do not seem to have been evolved from one another, but to have appeared simultaneously throughout the world. According to theory, the simplest and lowest forms of life were first, and were succeeded by higher and more complex types. Present living forms should be traced backward without a single break along genealogical lines to the lowest and simplest forms. The higher forms should grow out of the lower until the highest type of life is reached in man. But the geological records do not furnish evidence such as is required to substantiate the theory. All the species appear suddenly, and without explanation. The advance in the species is by sudden leaps, as if the impulse to life had been given by some power outside of and above the forms of life themselves.

The sudden manifestation of life, under new typical forms appearing repeatedly in geological history in high perfection of their distinguishing characters and great plentitude as to numbers, is entirely out of harmony with the theory of gradual development by infinitesimal and successive variations. Such a process of evolution could only be brought about through an infinite series of in-

intermediate forms. The discordances are so frequent and so pronounced that they violate every principle of evolution. The history of the development of the species, as it is indelibly written in the rocks of the geological strata, fails to reveal any evidence that a series of forms have been evolved by slow degrees of change toward perfection.

The fact that the total number of species in their earlier history is greater than in the later phase of their life, is contrary to theory. This excess of first appearances characterizes nearly all the separate orders of animals in their early history, as well as the aggregate. According to the requirements of evolution, instead of there being a preponderance of numbers at the beginning, there should be few in numbers in their early history, and these should slowly increase until they become numerous.

According to the doctrine of evolution the inferior forms ought to have predominated in numbers in the most ancient faunas, but the records in the rocks do not substantiate this claim. In fact, the earlier forms were not simpler and lower in the scale of being than the later. It is assumed that evolution began with a few lowly types, and that these gradually developed into higher types of life. But, on the contrary, many of the species were introduced under higher organized forms than they have since shown. In some instances the more complex forms were introduced first, and have since degenerated into simpler forms. The species have not invariably begun with the highest forms, though this is not infrequently the case, but never do they begin with the lowest type as the theory of evolution requires. The earliest representatives of a species are often neither the highest nor

the lowest members, but frequently a type intermediate, neither the highest nor the lowest. None of the species have ever been introduced at their lowest, but many have come on the stage of action at their best. The doctrine of evolution finds no support where it should find the strongest support.

The facts that we have set forth here as found in the geological records are admitted by evolutionists. Le Conte says: "The present condition of geological evidence is undoubtedly in favor of some degree of suddenness—is against infinite gradations. The evidence may be meager, though it seems to me that, in some cases at least, it is very abundant. But, whether meager or not, it is nearly all the evidence we have. Observe: The question is not, how species could have been introduced, or ought to have been introduced, or must have been introduced; it is a simple question of how they *were* introduced. It is not a question of speculative philosophy; it is simply a question of history. And, as a question of history, there is no witness upon the stand except Geology. In comparison with her evidence, all other evidence ought to be ruled out of court. Her evidence, and hers alone, must eventually settle the question. Now, the evidence of Geology, to-day, is that species seem to come in suddenly and in full perfection, remain substantially unchanged during the term of their existence, and pass away in full perfection. Other species take their place apparently by *substitution*, not by *transmutation*."* And there have been no recent geological discoveries that change in the least the facts that are here admitted, but,

*Religion and Science, p. 22.

on the contrary, every new discovery tends to confirm their truth.

III.

The evidence that geology furnishes is not only contrary to the requirements of the hypothesis of evolution, but is in harmony with the theory of special creation. The geological records point out the fact that the laws of nature have continued unchanged from the beginning of time to the present day. The laws that have operated to produce the changes in inanimated nature are the same that have been observed to operate in animated nature. The only real uniformitarianism in nature has been in the operation of her laws. There has been no uniformity in natural phenomena. There has been revolution, development, and degeneration in the realm of life as well as in the material world. There has been some variation in the operation of these laws from time to time. They have been more intense at times than they have at other times. Cycles of activity have been followed by periods of repose. There has been progress toward greater complexity and higher grade along with degeneration and extinction. The species seem to have passed successively under the dominion of these laws. And while under the dominion of one law, the others were held in check for the time being. The species originate, develop for a time, and finally perish.

The geological records furnish evidence that precludes the possibility of slow uniform change proceeding throughout geological time. Each successive rock formation presents new groups of species which have sup-

planted the old, and in turn have been supplanted by the new. And these new and more highly organized species have been introduced from time to time without the intervention of intermediate forms. No fact is more patent than the simultaneous introduction on earth of various forms of animal life. Upon the threshold of the Paleozoic era, representatives of Radiates, Mollusks, and Articulates burst simultaneously into multifarious being. They came in myriads of numbers, and swept down suddenly like a mighty invading host, and spread themselves over the waters of the earth. These were new species, there is no escaping the fact. From whence they came no one can tell. But they were introduced suddenly as if they had been called into existence by divine fiat. These new forms appeared in the early history of the species rather than in the later, and in the early geological times rather than in the more recent. The sudden appearance of numerous species, new and distinct, in geological formations is a fatal objection to any theory of the transmutation of the species.

There has been a continued series of alternate victories and defeats of the species. In the dominion of life there are great impassable gulfs that lie between the great eras, and mark them as distinct ages in the history of the development of the species. Granting the existence of Eozoon, there is a break between the Archæan era and the Paleozoic; there is a break between the Paleozoic and the Mesozoic; and there is a break between the Mesozoic and the Cenozoic. The world's life has suddenly and almost completely changed several times. Whole tribes of animals were swept away between these eras, and were replaced by others of entirely new and distinct species.

Everywhere the chain of continuity has been broken repeatedly, and there have been many fresh and abrupt starts made. Species after species, having served their purpose, have degenerated and gradually dwindled away, or have been swept out of existence by some great cataclysmic change. The extinctions of species occurred in every great oscillation of the continental areas. There is a marvelous change between each old age and the new. The change is so marked that the forms of life are almost totally unlike in the different eras. Some of the species reappear after these revolutions in nature, but usually in diminished numbers and in a degenerated form. The hypothesis of evolution requires that the intervals between the kindred species be filled up by intermediate forms. But there are many gaps that exist in the actual world of life itself that come far short of meeting the requirements of the theory. And if evolutionists can not fill the breaks between the species themselves, how are they to fill up these mighty gaps in the world of life? If they can not bridge over the smaller breaks between kindred species, there is no possibility of their bridging these larger breaks between the geological eras.

The introduction of new forms and the extermination of the old, has usually been cotemporaneous with the earth's revolutionary changes, the formation of mountains, and the changes of climate. These great cataclysmic changes lifted the waters of the oceans up by immense perturbations and swept over the continents with irresistible force, destroying instantaneously the entire life of the eras. We find that the animal life which teemed in the waters of the sea in one era was buried beneath the débris of the convulsion that marked the

close of an old era and the advent of a new one. Scarcely an individual of the former species survived the catastrophe. After these revolutions, in which the species were swept away, they were replaced by others entirely new and without the slightest evidence of transition. When the sea became quiet, the waters again teemed with myriads of new species. After these complete exterminations, coincident with the revolutions in the inorganic world, there has usually been a sudden appearance of whole groups of different animals without any recognized forms leading up to them, or from which they could possibly have been developed. These facts go to prove that in organic development species have always been suddenly introduced, and that in the animal constitution there is no innate tendency to elevation, but on the contrary a tendency to degeneration and extinction.

In geological times these periods of submergence alternated with those of elevation, and gave scope for the introduction of new forms of life. When there was subsidence marine species were introduced, while each continental elevation gave opportunity for the introduction of new species on land. Thus these physical changes that occurred so nearly in orderly succession were made subservient to the progress of life. Hence, it was not the adverse conditions of the struggle for existence, but the favorable conditions of scope for expansion on land and in the sea that made possible the development of the species. When the conditions became unfavorable the species diminished in numbers, and when they became adverse the species were utterly destroyed.

If evolution were the process by which the species have originated, it would be necessary for the process to

begin anew, and at the very bottom, at the beginning of each new era of the earth's history. Grant a continuous progressive development of the species from the lowest and simplest forms, and geological time is far too short for evolution to have produced the existing species. The hundred million years that evolutionists assume as the maximum limit of the time required to complete the process of development would be utterly insufficient for the purpose. These complete breaks in the process that have occurred between the eras would extend the time back into infinity. It would be absolutely necessary to begin the evolution anew after each abrupt break. And a special creation, or its equivalent, at the opening of each era in the history of life would be required. There must be a primordial form assumed for each fresh start in the development. And the evolution of the species would require not one, but at least four hundred millions of years to produce the species. Geological time is insufficient for the species to have been developed from these primordial forms by infinitesimal changes. A conservative estimate of the length of time that the conditions have been favorable for the existence of life on the earth by the scientists of the present does not exceed ten million years, a period of time entirely too short for evolution to produce the species.

There is abundant evidence of a gradual process in nature, but the gradual development always follows the sudden change. The successive extinctions were wrought by revolutions, and following these extinctions have been successive introductions of higher and more specialized creatures. Every stratum of the rocks that has been formed has been the burial place of many generations of

these forms that have passed away to give place to new and higher forms. In this way the development in the organic world kept pace with that in the inorganic. As the earth was prepared for a higher order of life the old forms passed away, and the new at once took their place. Each advance in animal life was introduced just when the earth was fitted for it. The development of the species has not been by smooth, continuous flow, but rather as a series of great waves, each rising abruptly, flowing for a time on a level, then descending and flowing on a lower level. Lower types in the geological ages have given place to higher, less specialized to more specialized. The earth was peopled with living beings at first low in the scale of being which reached their highest development at early stages, and then became extinct. And afterwards higher forms took their place, and the same process was repeated. These series of animated existences began, perhaps, with protozoa, and have been carried forward by successive steps through long stages of advance to the highest types of life.

The ascent in life has been extremely irregular, there is decline and decadence, as well as development and advance. The advance movements have been by stages. The process has been by sudden leaps. Each life-era reaches its highest development, degeneration sets in, and the life of the era passes away. There comes a new increment of force, and there is inaugurated a new era of progress. In these revolutionary changes, that have terminated an old era and inaugurated a new one, entire races have been exterminated; but when the elements subsided to a quiet condition the waters were peopled with countless multitudes of new beings exactly adapted

to the changed conditions of the earth. There has been from the beginning a great progressive movement. Higher forms have been introduced from age to age, but there is nothing in this fact that identifies higher and lower forms. The higher types of life have been brought into existence after the lower. But the higher forms are what they are distinctively, and are not to be identified with their antecedents. Each successive condition of the earth is related to those that succeeded it, and to those that followed it as a series. But no continuous chain of succession in time can be found gradually blending into each other. The geological records are sufficiently complete, and the simultaneous entrance of the species fully established. While there has been progress, as a series in the introduction of life, there has been no uniformity in the process. There have been periods of rapid production alternated with others in which many species were destroyed and few were introduced. Again, large numbers of species appeared at once in their most perfect state, and continued unchanged until they were exterminated to give place to higher species. Each series of species, as they are successively introduced, rises higher than the last in numbers and perfection of form, and makes gradual assimilation of the general conditions of the earth. Geological history establishes the fact that the species have advanced by a series of steps from the early invertebrates by successive higher forms up to the reign of man at the head of life. The great mistake has been made in calling these successive advances an evolution, when they violate the fundamental principles of the hypothesis.

All the evidence we have as to the mode of the origin

of the species is by sudden change in time from the less perfect to the more perfect. Evolutionists fail to distinguish between the facts as they are found in the geological records, and the hypothetical facts of the order required to establish their theory. So far as the law of development has operated in bringing the species to perfection, after they have been brought into existence by the law of revolution, there has been evolution, but this is not the law by which they originated. And it is not the law that has caused their advancement in the scale of being. They have advanced by distinct steps or waves, at widely separated periods of time as the forces of nature gathered themselves for a leap, or some power above nature caused the change. The evolution has been entirely confined to the development within the species themselves. But the development of the species, as they have taken on higher and more specialized forms, has been by revolution as the vital energy has been imparted from era to era during the geological history of the earth. These facts are utterly inconsistent with the hypothesis of evolution.

The new and advance forms can easily be accounted for by special creation, but evolution can not account for them as they appear suddenly and simultaneously. These new and distinct species had their origin, not as the progeny of those that had gone before them, but seemingly as new and living proof of creative power. There has been an inflow of energy from age to age that has made this development of the species possible and permanent. In order to have progress there must be new force supplied from time to time as it is needed. When the old progress could go no further, then, in some miracu-

lous manner, new power was supplied and a new order of beings was introduced. This growing complexity in organic forms is not inconsistent with a plan and purpose in nature, but is in perfect harmony with it. If the Almighty created the world in time, no one dare say that he could not have brought its factors successively into operation as well as simultaneously. Special creation will explain all the facts connected with the manifestations of life, as revealed by the geological records, but these facts are inexplicable by the hypothesis of evolution.

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"Now no state of savage life on record is more brutish than that at present existing among the inhabitants of Terra del Fuego. . . . Yet the children even of such savages, if taken very young and trained among civilized people, manifest natural capacity or aptitude for cultivation little inferior to their new companions. And, on the other hand, the children of civilized parents, if thrown by disaster among savages, have been found to acquire completely the characteristics of the savage. Such facts lead to the conclusion that the differences between savages and civilized men depend mainly on the differences of their educational training."—*Arnott*.

"If the radiant civilization of Greece, that filled the earth with the 'eloquence of thought and the melody of song,' with the Republic of Plato and the Ethics of Aristotle, that clothed itself in the Parthenon of Phidias and the Iliad of Homer, was as natural among the nations as the uprising of Gibraltar among the mountains, why is it that Gibraltar still stands as a solemn sentinel of the Ocean and the Sea, while the civilization of Greece is but a memory of the past? . . . If the civilization of Rome, that reached such volume and force as to make her the mistress of the world, was as natural as the rising and falling of the tides, why is it that Rome is in ruins, while the tides continue to rise and fall? With no other aid than such as is afforded by natural law and physical force, we can not solve this problem. . . . We must pass from the level and range of soil, sky, climate, and physical conditions, to account for the fact that a country in one period of its history produces a Pericles, and in another a muddy-headed numskull; in one age an aristocracy of poets, artists, statesmen, philosophers, and orators; and in another a listless swarm of stupid and secular cumberers of the ground."—*Lee*.

MAN A REVOLUTION

THE human race has a much greater antiquity than our forefathers supposed; for six thousand years was regarded by them as the full limit of time since the creation. But a vastly greater length of time than that has passed since the advent of man upon the earth. We can trace man no farther back in geological history than the Pliocene epoch, and it is seriously questioned whether he existed as early as that period. If the theory of special creation is true, he was created in all probability at that time, when the earth was at her full perfection, and the climate was mild and salubrious. There is no period in the history of the earth that corresponds so perfectly with the ideal conditions of the Edenic garden as the conditions in the Pliocene epoch. But if the hypothesis of evolution is true, man can not have originated at such an early period, and it may be that this is the reason that some scientists have rejected the evidence of his advent in this age. Whatever may be the date of his earliest remains, the earliest known man was still man in all the essential points, and was separated from the lower animals by a gap as wide as that which now exists.

Our knowledge of man's antiquity depends on several branches of science, particularly upon Geology, Archæology, Anthropology, and Philology. These sciences all furnish evidence that shows that man has dwelt upon

the earth for countless ages. And they reveal the fact that primitive man was as high in the scale of being as the men of the present day. Ancient man has been regarded as a brutal savage, living a life scarcely removed from that of the lower animals. He has been represented as such a being as we would naturally expect to find, were the doctrine of evolution true. A being scarcely removed above the brute order. And the facts furnished by these sciences have been interpreted in such a way by evolutionists as to fully confirm the doctrines of the new philosophy. But the facts, when rightly interpreted, instead of proving that man was introduced into the world by a gradual process of development, indicate that he was introduced suddenly in the full perfection of his powers. The evidence furnished by these sciences, when not colored by a preconceived theory, proves that man came into the world with the suddenness and abruptness of a revolution.

I.

The geological record introduces us to primitive man, but gives us no definite information as to the source of his origin. The solution of this problem must be left to speculative philosophy. But even a brief review of the facts furnished by geological history will present to our mind evidence of such a nature, that the only reasonable inference which can be drawn from it is that man was introduced suddenly into the world just as we should expect him to appear, if the theory of special creation were true. The geological evidence fails to carry man back to a remote antiquity as a primitive savage. The

fossil remains of the earliest men that have been discovered in this country and Europe tell an entirely different story from that required to confirm the hypothesis of evolution. The people who lived in the early stone age, that of chipped flints, judging from the height of their stature, the size and shape of their skulls, and their cerebral capacity, were endowed with a degree of physical and intellectual power that is not surpassed by the men of modern times.

The earliest remains of primitive men are found in caves and under cliffs of rocks, where they have taken shelter from the elements. The greatest number of fossil remains of primitive men are found in the caves of France and Belgium.

The celebrated Engis skull, discovered in one of the caves of Belgium, is admitted to be of high and human character. It is one of the oldest skulls, and is believed to have belonged to a contemporary of the mammoth. From its shape and size it might have belonged to an individual of one of the present races of men.

The skull of the old man of Cro-magnon, that was found in Perigord, France, is among the oldest skulls. The man to whom it belonged is known to have been old from the fact that the teeth are worn down to the sockets by usage, without being lost. This old man was nearly six feet tall, large-boned, and possessed a large, well-formed skull. The skull is very long, and at the same time has great breadth. The frontal region of the skull is well developed, and the brain capacity is greater than that of modern men. Professor Broca says of this skull: "The great volume of the brain, the development of the frontal region, the fine elliptical profile of the an-

terior portion of the skull, and the orthognathous form of the upper facial region, are incontestably evidences of superiority, which are met with only in civilized races. On the other hand, the great breadth of face, the alveolar prognathism, the enormous development of the ascending ramus of the lower jaw, the extent and roughness of the muscular insertions, especially of the masticatory muscles, give rise to the idea of a violent and brutal race."* This skull, as far as size and shape are concerned, might have belonged to a modern statesman or to an ancient philosopher of renown. There is the highest and finest formation with great brain capacity. And this skull belongs to the earliest stone age, when man was supposed to have been a lower being than in the succeeding stone age, that of polished stone.

The skeletons found at Mentone are of the same high character as the remains discovered at Cro-magnon. These are among the oldest human remains, and are surprisingly similar to those of the men of modern times. The skull of the most perfect skeleton is of equal capacity with the general average of the skulls of the present age. The skeleton has the proportions usually found in man, and the skull is of excellent Caucasian type. These remains belonged to representatives of a race of large, well-developed men, who had a brain capacity equal to that of men that live to-day.

There was recently an important discovery of human remains made in our own country. Some workmen unearthed a skull near Lansing, Kansas, which belongs to an extremely early age. It is one of the oldest skulls

*Quoted by J. W. Dawson in *The Meeting-Place of Geology and History*.

that has yet been discovered. It is the consensus of opinion among the men of science that have investigated the matter, that it dates from the recession of the ice age. The remains were in the loess deposited by the recession of the ice age. The man, in all probability, was drowned in the floods which occurred just at the close of the Glacial epoch in this country. He had probably sought shelter under the rocks, and was overtaken by the great flood of waters caused by the melting ice, and was drowned where he had sought refuge. The sediment then quickly formed around the body, and it had lain there undisturbed, it may be, for ten thousand years. The skeleton is not different from an ordinary man of the present day. Some have contended that the skull is too modern to be that of a prehistoric man, but of its great antiquity there can not be a reasonable doubt. The formation in which the remains were found has never been disturbed. And in this same formation many prehistoric relics and implements have been found. The skull is perfectly formed, and might have belonged to an individual of the present age. The shape of the skull is that of the highest civilized races. The strength and breadth of the jaw may indicate that the man belonged to the high type of men of his age, but that he led with them a rude life.

The oldest known men are as truly human in their structure as the men now living, and no link of derivation between them and the lower animals is known to exist. But the skulls of the oldest known men, those of the early stone age, were not only equal to those of the men of the present, but even surpass them in size and brain capacity. After careful measurement, it has been ascer-

tained that the volume of the ancient skulls is greater than that of the modern men of Europe. The skulls of the stone age average 18,877, while those of the present men, who dwell where these primitive men once lived, average only 18,579. And the Hottentots, who are among the lowest of living races, average but 17,957. According to the volume of the brain, the primitive man was not as near the brute as the modern man, who has been under the influences of a high civilization for centuries. Reasoning from such facts as these, we conclude that the older men were more perfect than the men of the present time. Man was further removed from the ape, back at what is regarded as the dawn of the race, than he is now after ten thousand years of development. What right have we, then, to assume a continual progress of man upward, when thousands of years furnish no proofs of advance, but rather of degeneration? Primitive man had the same volume of brain, the same physical powers, the same intellectual capacity, and doubtless the same moral nature as the men that are now living. The geological evidence indicates that man's earliest state was his best—that he was a higher and nobler being before he became a savage. The oldest skulls of the earliest stone age are almost exactly like those of the present day. The largest skulls resemble those of the modern philosopher and statesman of modern times as regards volume of brain, and the smallest resemble those of the savage tribes of to-day. The oldest living man, however, was not quite as near the brute as the man we know.

It is thought that the oldest known remains of man were deposited in undisputed Pliocene beds. The skulls of these early men are undoubtedly superior to those of

the ruder types of post-Glacial men. And this fact would indicate that man had degenerated, instead of advancing, between the time of his first appearance and the early modern period. But this is in harmony with what we know has taken place with the lower animals, they were larger and more numerous in that age than they were later on in their history. If man existed in the fine climate of the Pliocene epoch, we would naturally expect him to be a nobler being, suited to his environment. When the cold of the glacial period intervened, he would naturally deteriorate to some extent. His mode of life would change, and he would have greater difficulty in sustaining life. And it is not unreasonable to suppose that the earliest man, who was introduced as most of the species have been in the full perfection of his powers, should in like manner degenerate as the climate changed and it became more difficult to sustain life. There is no good reason why the law, that when perfection is reached degeneration begins, would not hold good with man as well as the lower animals. The earth has been steadily losing its life-giving warmth, its once delightful and equable climate has slowly given place to tropical heat and arctic cold. The luxuriant flora that once flourished over widespread areas, has yielded to types of marked inferiority; and its degenerating fauna has ceased to measure up in stature to preceding forms. The earth, plant life, and animal forms have all degenerated to a greater or less extent, and we fail to find any good reason why this rule should not hold good with man. According to our theory the deterioration in nature reduced the vigor and longevity of the race, but according to the hypothesis of evolution it changed anthropoid apes into men. This

is saying that deterioration of environment has devitalized and degraded all forms of life except one, but this one, unaided and alone, it has elevated to the physical, intellectual, and moral kingship of the world. The reasoning of the evolutionists is irrational and illogical, therefore, we refuse to accept the conclusion at which they arrive.

The earliest remains of men that have been discovered are superior to later men, but it is probable that we have not found the skeletons of the most perfect men. It is more than likely that the remains of the earliest men that have been discovered are those of ruder inland tribes, who did not enjoy as high a civilization as the people that dwelt upon the coasts. In some of the cataclysmic changes the coast country was submerged, and the people dwelling there destroyed, while those living further inland would be preserved. The conditions of life would change as the land was limited in extent, and the climate suddenly became cold, and these inland peoples would, as a result, have a hard struggle to maintain life. In order to subsist they would be forced to become hunters and fishers, instead of tillers of the soil, and would be compelled to dwell in the caves of the earth. And in the course of time they would undoubtedly degenerate into ruder tribes.

The explanation of these ruder tribes may be found in a cause that has been more recently at work among the nations of the earth, and with which we are much more familiar than the one that has been suggested. These cave dwelling peoples may have been the scattered fragments of a more powerful people of noble ancestry whom the fortunes of war had driven into hiding in the

caves of the earth. We know that this has been frequently the case in later times, and it may be the true explanation of these early cave dwellers.

For some such reasons as these we can find no trace of the more highly civilized peoples that preceded these ruder tribes. But we find in their descendants, who have been preserved in these outlying tribes, or remnants of a stronger people, something of the same high mental powers, though degenerated into a coarser people on account of the change in their mode of living. The lands are not as extensive as they were before the Glacial period, and, consequently, if there were any remains left of these more highly civilized races, they have been buried beneath the sea along the coasts. Evolutionists tell us that the missing link may lie buried beneath the Indian Ocean, and this supposition that there were more highly developed peoples that dwelt along the coasts and were destroyed by some sudden submergence will not appear unreasonable to them. If these higher races were destroyed by the fortunes of war, there would be no evidence left of their existence except these ruder tribes whose remains have been found in the caves of the earth.

But whether there was a higher and more civilized race of men before the earliest men whose remains have been unearthed, does not invalidate our argument. These remains that have been found tell us that the primitive men had the same physical structure and the same cerebral organization; and, with their larger brain capacity, the same intellectual powers that men possess at the present time. The most splendid men that civilization can produce have no advantage whatever in physical powers or intellectual capacity over these primitive men. In

fact, the civilized men do not have their physical and mental powers as highly developed as the men who lived in the early stone age. The bodily form has not changed in the least as far as we can determine. No remains of fossil man bear evidence of any less perfect erectness of the body, any less brain capacity, any less intelligence, than is found in civilized man. On the contrary, the evidence bears out the opposite conclusion, that primitive man was superior to modern man in physical structure, size of brain, and intelligence. The gap between the man of the early stone age and the ape is a little wider than it is between the modern man and the ape. The earlier man had larger bone, stronger muscle, greater stature, and excelled in brain capacity. It is apparent that the statement, that the difference between the lowest men and the highest apes is not greater than the difference between the highest and lowest races of men, is a fallacy.

The abruptness of transition between the apes and primitive man is striking. The first man, so far as we can ascertain, appeared on earth at a definite time, having no historical, organic, or vital connection with any race of apes or previously existing species of animals; but from the beginning possessed all the characteristics of the existing races of men.

The men who lived in the age of great mammals were men of great physical structure and with large brain capacity, which would indicate a race of men with high and refined cerebral powers. These facts show that man in his earlier state, if not at his best, was not only the mere equal, but the superior of man as we know him. He was a higher and nobler being before he became a

savage. What the evolutionists consider man's primitive state is only a lapse into savagery—a degeneration from a higher state of civilization. We can go back in geological history perhaps ten thousand years in tracing man, and we find the earliest man equal, at least, to the man of the present. This has been ample time for evolution to produce some little advance in man, if the theory is true. But the geological facts are against the hypothesis. No remains of ancient man have been found that bear evidence that he was less perfect in any particular than civilized man.

The evidence from geological research seems to point out the fact that man was introduced into the world, not by a gradual process of development, but in some sudden and abrupt manner in the full perfection of his powers. The facts, as they are found in the geological records, preclude the idea of slow uniform change, proceeding throughout countless ages. When we take into consideration the high development of primitive man, on the principle of gradual development, his origin would be removed not only far beyond the existence of any remains of man, but even beyond the time that any animal which nearly approximates to him existed. Man must have existed a great length of time as a savage before he attained the development that his earliest remains indicate. He must have existed a much greater length of time as an ape-like man, and a still greater length of time as a manlike ape. And this would place the origin of man further back in time than the anthropoid ape had an existence. If man was evolved from a species of ape, this ancestor of man must have existed as early as the Eocene epoch. If he descended from an anthropoid ape, it would take fully that

length of time to produce the high state of perfection in which we find him at the close of the Glacial period. But no such precursors of man can be found in the geological records of that epoch. The earliest fossil remains of man are still human in all their characteristics, and tell us nothing of any previous stages of development. Man stands alone unique in space and time. And what right have we to assume a continuous progressive change from the simple to the complex, from the primitive savage to the civilized man, when thousands of years furnish no evidence of advance? All the evidence we are able to find indicates that man appeared suddenly, and that the ancient man was, at least, as perfect as the man now living.

II.

These ancient men whose fossil remains are found in the caves of Europe, possessed no small degree of artistic skill as shown by their drawings on the cave walls and their carvings on bone and ivory tools. They made tools of bone on which they carved the figures of various animals, the mammoth, the horse, the deer, and the seal. Their carvings surpass what an ordinary man could execute with the aid of modern tools. They reveal the fact that there were artists in those early days. They made ornaments by perforating shells and pieces of ivory. There are found in connection with their remains bodkins of bone, and long, beautifully designed knives with artistically shaped handles. The shape of the stone ax used by these primitive men has not been improved on

by the men of later ages, though they manufacture them now out of iron and steel.

The arts of civilization originated with great inventors, and not by gradual development extending over countless centuries. And the same is doubtless true of prehistoric times. The men of inventive genius invented the implements used by the cave dwellers. And the original inventions, such as language, fire, and tools, are a greater evidence of intellectual powers than the inventions of modern times, when there are so many inventions to suggest to the inventive mind new and useful devices.

For us to base our estimate of the intellectual powers of the earliest men, or the state of civilization that prevailed in the world at that time, on the crude implements used by some rude outlying tribes, would be like arguing from the arts of the aborigines of this country, at its discovery, what the state of civilization was in Europe at the same time. The stone implements that were used are no index of what the state of civilization was in the rest of the world. The primitive methods of agriculture in China, India, and Mexico, are as different from the methods employed in this country as the implements used in the stone age are from those we employ.

Relics of prehistoric man have been found in almost every country in the world. From these relics we can study the arts, industries, and, by inference, the mental development of these early people. Their discoveries in one sense may not equal ours, but in another they surpass them. We have the benefit of the accumulated knowledge that has come down to us from the past,

while the early inventions had to be made without the aid of suggestions from other inventions. These early inventions were made *de novo*, while the present inventions are improvements over the old, or are called forth by suggestion. The invention of a simple tool in that early day would require more mental effort than the invention of an intricate machine in our times. These primitive men were adepts in the potter's art; and it was far more difficult to make a vessel then, without the aid of a lathe, than it is now with the potter's wheel. They revealed a certain amount of imitative art in the carving of animals on pieces of reindeer antlers, which served as handles for weapons and implements of domestic use. The beautiful necklaces they made of perforated shells indicate that they possessed the same tastes for ornamentation that modern man possesses. And their drawings are all the more remarkable, when we take into consideration the rude tools with which they executed them, for, as far as we have any knowledge, they had no tools except these bone and flint implements. They were fine carvers, as shown by their carvings on the teeth of animals, shells, and the antlers of deer. The animals sketched on the cave walls show remarkable power and skill in designing and drawing. With a few swift strokes they produced vigorous and true sketches of deer and mammoth. These early men buried their dead with care, and consequently must have had some ideas of religion and the future state. The sum of knowledge has increased during the ages, but the intellectual capacity has not increased with it. There has been great progress in the arts and the sciences since these early men dwelt upon the earth. There is no reason, however, for believing

that these primitive men were in any way inferior to the men that now inhabit the earth.

There is a vast accumulation of evidence to show that the early historical races excelled us in the fine arts as well as in many other kinds of culture. Egypt was among the earliest centers of civilization. The wonderful mechanical skill and engineering feats of the early Egyptians, as evidenced in the building of the pyramids and the erection of the obelisks, is proof of this. The Pharoahs had these massive blocks of stone that weigh fifty and a hundred tons brought from the quarries a hundred and fifty miles away and placed in these walls thousands of years ago, and to-day a thin knife blade can not be inserted between the joints. We have no idea how they handled these rocks of such immense weight, and we can not conceive how they could make such perfect joints. It has been supposed that as men were plenty, and, as the system of forced labor prevailed at a later day, that these great works were all produced by large multitudes of laborers without the aid of machinery, but such an assumption is unreasonable. The fact is that they had better engineers, better stone cutters, better masons, and much better machinery than we possess. For unless they had machinery that was a great improvement over anything that we have in modern times, they could not have handled these massive rocks and placed them in the walls with such perfect joints. The Egyptians excelled us in architecture, especially in building great massive structures like the pyramids, and in the erection of the obelisks made out of a single block of stone. The cap stones on some of these pillars weigh as much as two tons, and yet in some way they were sus-

pended a hundred feet in the air and placed on top of the obelisks. And, mark you, these massive works were wrought by the Egyptians whose ancestors were among the earliest men. The farther you go back in the history of Egypt the more perfect the art and architecture are found to be. There are found carved ornaments of wood, bone, and ivory, inscribed tablets, figures great and small, with many other evidences of a high state of civilization at a time when it was thought that man had not yet made his appearance on earth.

The ruins of Egypt disclose a mighty civilization, more grand and massive, but perhaps less elegant, than that of Greece. The civilization on the Nile had reached its perfection before Greece had received her alphabet. In recent times the spade has unearthed in Egypt a civilization that, in some respects, has never been surpassed by any nation. These early people were famous for the sciences, were skilled in weaving, and produced colors so lasting that after a lapse of four thousand years they retain their pristine freshness. Long before the time of Moses they had attained perfection in architecture, weaving, and writing that has never since been excelled. The high state of art found in that country in the earliest times, indicate that the first inhabitants far excelled the later. For recent discoveries establish the fact that the works of the later inhabitants were surpassed by the men who dwelt there as long ago as six thousand years. The art we know is degenerated, while that of ancient time was vastly superior to it. The recent explorers have found in the ancient tombs proof of a civilization that existed in that country, at the least estimation, four thousand years before the Christian era began. And it is es-

tablished by these discoveries, that instead of the Egyptian art we know being the beginnings, the initial strivings of a crude people to express themselves, this art is clearly shown to be debased and degenerated from an infinitely higher form of art many scores of generations earlier. There is found in Egypt no evidence of an infancy in art. There was a high state of civilization on the Nile, surpassing in many respects the achievements of the present day, when evolutionists would have us believe that man was a primitive savage, only a little removed from the lower order of beings.

No capital of the world has been the center of greater power, wealth, culture, and luxury, for so vast a period of time, as ancient Babylon. The peoples that dwelt on the Euphrates had attained to a high state of civilization thousands of years before the coming of Christ. They surpassed us in architecture and in the munificence of their works of art. They had grand palaces, hanging gardens, and magnificent temples. The ruins of Nineveh indicate that the same high state of civilization that existed in Babylon prevailed there in an early day. But where these once flourishing civilizations held sway, there now dwells a handful of debased people. These degenerated inhabitants live in their mud huts, built on the mounds of earth that cover a superior civilization and hide from view the remains of a mighty people who once dwelt there in walled cities, and enjoyed the luxuries produced in these rich valleys, as well as the tribute paid by many conquered nations. There have been exhumed from these mounds evidences of art and knowledge which were hitherto supposed to have been developed in more recent times.

The ancient Greeks surpassed modern nations in sculpture, painting, and architecture. The Parthenon, in the beauty of its proportions and the fitness of its ornamentation, has never been excelled. The temple of Diana has never been surpassed by any modern temple. And, when we undertake to produce, to-day, a building that surpasses the ordinary, we are forced to go back and copy from the architecture of the ancient Greeks. The human form cut in marble by Grecian sculptors has served as a model for centuries, and has been an inspiration to hundreds of aspiring artists. The architecture of Greece is beautiful and imposing, possessing grandeur, strength, and solidity. The culture, learning, and refinement of the ancient Greeks excels that of all other nations, unless it was ancient Egypt from whom she borrowed much of that elegance and culture that distinguished her. This high civilization suffered decline and fell into decay. The morals of the people did not continue in a high state of virtue and the people became corrupted. There followed decline in learning, art, and architecture, and the civilization fell before the relentless invader. Three hundred years had scarcely passed after the age of Pericles, before the glory of Greece had departed; and her career as the most highly cultured people of which history furnishes any record was forever at an end.

In ancient Rome there were the palaces of the Cæsars, the Coliseum, and the Forum, all of which were famous and magnificent buildings, surpassing the modern works of men. These glorious piles of stone reared by the old Romans witness to the present age that the architect who designed them was no mean being with inferior powers, though he did belong to the distant past. And corre-

sponding with the architecture, there was a high state of culture, and the fine arts had reached a high state of perfection. The superiority of the Romans in art and architecture, and their intellectual greatness is admitted, but it is claimed that they lived in cheerless houses, into which the cold and storms of winter could enter without hindrance, for it is thought that they knew nothing of glass. But the excavators at Pompeii discovered a glass factory in which there were all varieties of glass, including window glass, and the notion of uncomfortable homes has to be abandoned. But the splendor won by Roman arms fell into decay. A race enervated by indulgence, and weakened by luxury, became an easy prey to the vigorous conquerors from the barbaric North. Five hundred years after the golden age of Augustus, the Goths had pillaged Rome and stripped her of her power.

Excavations on the Island of Crete have recently uncovered the ruins of temples and palaces that belonged to an ancient people who dwelt on the island and enjoyed a high state of civilization. The ruins of these old structures indicate no mean skill in architecture. Stones have been found in the excavations on which there are engraved a written language older than the Greek, differing from the Hittite, and unlike the Phenecian, hence, could not have been derived from any of these tongues. There was a superior state of civilization existing in Crete at least fourteen centuries before the Christian era began.

In the excavations made at the ancient city of Troy by Dr. Sleiman, there was found unmistakable evidence in the different strata of the old ruins that a rude stone age with rude stone implements has followed an age com-

paratively high in civilization, in which weapons and tools of bronze were employed, and jewels of copper and gold were worn as ornaments.

In Iceland there are found ruins that once belonged to a superior people and a higher civilization. The Esquimaux are a degenerated people from these higher races that once peopled that region of the continent, when there was a warmer climate and a more favorable environment. There was a change of climate and a deterioration of nature, and these people relapsed into barbarism.

The mound builders that once inhabited this land before the time of the Indians used bronze tools, and doubtless built great temples on these mounds which we find scattered over the land. They were succeeded by an inferior race. We have no means of knowing whether they were driven out by the invasion of cruder peoples, as has been so often the case, or whether they degenerated as the result of luxurious living and the undermining influence of moral evil. There are distinct traces of Asiatic art and religion found in the remains of the mound builders, which suggest that ages ago this country may have been settled by peoples from the Far East.

In Mexico there are ancient ruins of temples and palaces that never were built by the present inhabitants. The people who dwelt in that land at its discovery were degenerated and lived far beneath these earlier inhabitants. These temples, palaces, and residences made of dressed stone, show advanced development in mechanical skill and architecture. Recently there was picked up in the ruins of an old temple in that land a scarab that seems to identify these early people with China or Egypt.

And the same discoveries have been made in South

America. Old ruins are found scattered throughout that land, which are now overgrown with giant trees. These old ruins were built of dressed stone, and were the work of a superior people that ages ago inhabited that land. The ruins give evidence of a high degree of civilization, and show that there were skilled architects and builders in the earlier times before the land was peopled with savages.

There are unmistakable evidences in almost every country on the globe of an earlier people and a departed civilization. These facts prove that there is no foundation for the assumption that the race began as primitive savages, and gradually advanced, step by step, until mankind has attained to the high state of civilization of the present. The aborigines of these lands were not developed apes, but, on the contrary, were the descendants of higher and more civilized peoples that have formerly inhabited these countries.

It is impossible to harmonize these early civilizations with a slow and gradual elevation of the race from the primitive savage to civilized man. Geological time is insufficient for man to have been produced by a long, tedious, uninterrupted process extending through thousands of years of development in order to bring him from a state of savagery to a high state of civilization and culture, such as flourished in Egypt and Assyria six thousand years ago.

And the theory of evolution fails to account for the fact that the less remote centuries furnish examples of peoples who reached a higher state of perfection than has since been attained. Greece had her immortal past, when

the Parthenon, the temple of Diana, and her matchless works of art were produced. But her walls have crumbled, the columns have fallen, and Greece is only remembered for her immortal past. There was once a mighty civilization on the banks of the Tiber, when the Coliseum and the Forum were constructed and Rome was the mistress of the world. But luxury usurped the place of simplicity, prodigality wasted the strength of the nation, and that civilization was trodden down by the ruthless tread of the barbarian hordes. In these ancient nations there was a sudden change from civilization to barbarism. In spite of law, of culture, of art, of religion, society constantly declined. Evolutionists may talk about the necessary progress of the race, but let them explain why the civilizations of Egypt, Babylon, Greece, and Rome were swept away to give place to barbarism.

Contrary to the theory of evolution, we are compelled to go back to the distant past for man's highest perfection. We are forced to go back to Moses, the trained scholar and peerless legislator, for the fundamental principles of our laws. He lived back yonder in the remote past. And he was not the descendant of a long line of law-givers, but the offspring of a slave, the descendant of a race of slaves. He was taken from the home of a slave and trained in all the learning and wisdom of Egypt. And above the law-givers of our times he sits enthroned, the greatest law-giver the world has ever known. But the critics have made Moses out a myth, some one is ready to say. Let us admit it, for the sake of argument, and it only strengthens our position. If Genesis was compiled from earlier writings, there must have been greater

learning and wiser men in that earlier age than in later times.

We talk about the philosophers of to-day, but we must go back into the past for the greatest philosophers, Plato and Aristotle. The abstruse speculations of these ancient philosophers have never been equaled for acuteness and severity of logic. Evolution is frequently spoken of as the "new philosophy," but the philosophy of Huxley and Spencer is almost identical with the Advaita philosophy, the earliest philosophy of India, which dates back at least three thousand five hundred years before Christ. The philosophy of Schopenhauer is strikingly similar to the Vikramaditva philosophy of India, which dates back more than three thousand years before the birth of Christ. Democritus taught atomical philosophy and the survival of the fittest. Epicurus and Lucretius outlined the whole evolutionary philosophy two thousand years ago. The evolutionary philosophy so far from being new has been entertained for thousands of years.

The great orators, such as Demosthenes and Cicero, though belonging to the past, stand in the forefront among the world's greatest orators.

The great creative poets lived in the centuries of the past. Homer, the greatest Greek poet, Goethe the greatest German poet; Dante, the greatest Italian poet; and Shakespeare, the greatest English poet, all belonged to the past.

The master painters, like Angelo and Raphael, lived in the past. We are indebted to the men who lived ages ago for most of our noblest works of art. The statues of the ancient sculptures are models of hopeless imitation. Are there any modern statues that show the grace

of form of the Venus de Milo and the Apollo Belvedere? And where is the equal of the Torso Belvedere, to which Angelo declared he owed his power of representing the human form? These noted works of art all belong to the past. We talk about the accumulated results of centuries of culture and progress, and seem to imagine that we are the most enlightened and cultured people that have ever dwelt upon the earth. Can we rival the skill that produced the massive architecture of Egypt, the art of ancient Greece, the military genius of Rome? The classic nations whose literature we study, whose art we imitate, and whose achievements we emulate, all belonged to bygone ages. And who can trace to their fountain-head the streams that have enriched the literature of the world? Who can name these great masters who produced these perfect works of art? The outcome of untold ages of development and culture is a race of men with less brain capacity, less architectural skill, less artistic genius, less poetical fancy, and less philosophical acumen, than was possessed by the ancients. These facts are difficult to fit into the fine-spun theories of evolution. If the hypothesis is true, men should be far advanced beyond their present attainments. We should not have to look backward, but forward and now for the highest attainments of men. The blazing lights behind us dazzle our eyes, but, on the showing of evolution, there ought to be vastly brighter lights around and before us, but we fail to discover them. In the early ages we have an aristocracy in art, architecture, philosophy, oratory, and poetry, but we find in succeeding ages vast numbers of inferior men, who, instead of producing anything original, are only imitating the works of the masters.

III.

Evolution must account for human history as well as the inorganic and the organic world. But the history of the race with its advances and retrograde movements can not be satisfactorily accounted for by this hypothesis. If the trend of events had always been upward, the theory would explain history, but there have been downward movements, followed by upward movements which have been the result of sudden impulses.

In regard to civilization the great mistake has been in comparing the former conditions of civilized nations with their present state of development. From the beginning of history the various grades of civilization have existed, not in succession, mark you, but simultaneously. We are highly civilized, it is true, but there is abundant savagery in various parts of the earth. Civilized nations and uncivilized nations have existed side by side since the dawn of history, just as they do in our own times. While our ancestors were practicing the cruelest savagery in the British Isle and in the forests of Germany, there was a high state of civilization in other parts of the world. The kaleidoscope has been given a turn, and we have advanced, while they have retrograded. We enjoy a high state of civilization in this country, but there have been living in savagery all these years under the shadow of our civilization, thousands of the aborigines of this land. In our very midst, in our great cities, only a short distance from the homes of wealth and refinement, there are thousands that are living in little bet-

ter than barbarism. In the black belts of the Southern States there are other thousands that are living in gross ignorance and in the practice of appalling superstitions. And in the mountain regions of these states are people of our own blood, whose forefathers were among the pioneers that helped to redeem this continent from the primitive forests, who have stepped aside from the path of progress, and are not any farther advanced than the early settlers from whom they descended. If the present civilization were overthrown by some cataclysmic change, the scientist, two thousand years hence, might find abundant evidence in this land to substantiate the theory of evolution by showing that there existed here at the present time a low grade of civilization.

The present races of men were preceded by other races that have passed away. The savage is a degenerated man, not a primitive type. And no correct theory of what primitive man was can be built upon the conditions of the savage of to-day. The analogy is false, for the cases are not parallel. At the same time that a high state of civilization existed in Europe, when this continent was discovered, savages in this land were using chipped flint instruments. The lowest degree of civilization co-existed with the highest. There existed here a condition of things, just where evolution begins in the development of primitive man as a savage. Evolutionists contend for a unity of origin. But in order to explain these facts, according to the development theory, there must have been a multiplicity of origins. There can be no force in the claim that the primitive savage is represented by the present savage unless this is true. If the present savage is not a degenerated man, then it follows that he had a more

recent origin than the civilized man. Otherwise, it is a complete begging of the question to attempt to sustain the theory of evolution from the materials furnished by the savage culture of to-day.

The primitive savage is a familiar term in evolutionary writings, but there is no evidence that the primitive savage ever existed. The mythical writings of almost every nation refer to a "golden age" in the past, which was far removed from savagery. The recent discoveries of archaeologists confirm these so-called myths, and show that in all probability they are founded on fact. There are no traces of savagery to be found in the ancient ruins of the nations that once exercised dominion over the earth. The evidence indicates that man was a superior being before he became a savage. The so-called primitive savage has back of him as many centuries as the civilized races. Given human beings normally endowed at the beginning, and history indicates how the savagery of the past and present could have originated easily and naturally, simply by the violation of natural and moral laws. In all probability the savage is the offshoot of some higher race of men, who possessed moral and intellectual attainments of an advanced type. These savages are in a condition precisely the opposite of human nature in its normal state. They have degenerated into a condition of savagery and have remained almost stationary for centuries.

There is a tendency to revert to a baser life among nations as well as individuals. Nations rise to great eminence and power and gradually sink back into a state of savagery. Degeneration in races is a well-established fact, and without doubt the savages known to us have

deteriorated from some higher races. The fossil remains of primitive man that have been discovered indicate that he was a higher and nobler being before he became a savage. It is not reasonable to suppose that such high development of brain and intellect could have been engrafted on a primitive savage. These powers must have been the remnants of a nobler organism deteriorated through moral evil, or the result of degeneration from changed and unfavorable environment, necessitating an entirely different manner of life. The old ruins that are discovered in lands that are now inhabited by savages reveal the fact that these lands were once peopled by higher races. Unquestionably the evidence is abundant to prove that there has been degeneration in the human race instead of the continuous advance that the theory of evolution requires.

The centuries tell the solemn story of the encroachments of barbaric tribes upon highly civilized peoples, laying waste the greatest nations, undoing the life work of great statesmen, and bringing to naught the progress of hundreds of years. Egypt was repeatedly overrun by the invasion of peoples much lower in the scale of civilization. Babylon was invaded by barbarians and the labors of centuries destroyed. Rome, after long centuries of dominion and power, was overrun by the barbaric hordes. These higher civilizations were done to death by these unfit savage hordes. And how many magnificent buildings, historic pictures, masterpieces of literature, and beautiful works of art were destroyed, can never be known. The invasions of these nations by the barbarians determined on the plunder which a superior civilization spread out before them were retrograde movements. This was the destruction of what would

seem to have been the fittest that the unfit might survive. But this has been characteristic of the history of the race, advance has always been followed by retrogression. Men of genius have founded great empires, and there has followed a period of development in which great cities have been founded, magnificent buildings erected, beautiful works of art produced, and an extensive commerce built up, but with the acquisition of wealth and the introduction of luxuries the people have invariably become effeminate, and decay and death are the final result. As these nations have advanced in the scale of civilization they have turned aside from righteousness and moral rectitude which characterized the founders of the nation; and, hence, this higher civilization was overthrown by the invasion of a less cultured but more vigorous people.

The old nations have degenerated and new nations have sprung up and taken their place. And the change from the old nation to the new has been brought about by degeneration and revolution. The changes in these nations have not been in harmony with the hypothesis of evolution, but in direct violation of its principles. The civilizations that have come down to us have been maintained to a great extent by the infusion of new blood from cruder peoples into old and effete nations. And where there has been no invasion of cruder peoples there seems to have been a gradual degeneration until the people have reached the lowest depth of savagery. This may be the explanation of the savagery that existed on this continent at its discovery. These people had degenerated and become stagnate. When civilized nations are overrun by barbarous tribes, the destroying waves of the savage hordes come suddenly like a flood of mighty rushing

waters sweeping everything before them. But following the invasion the higher nations, enervated by luxury and vice, are restored to life and youth by the mixture of new blood from the crude but vigorous peoples.

Since the beginning of history there seems always to have been somewhere a great civilization on earth, and never has the whole of mankind been civilized, unless it was in prehistoric times. What we consider primitive, so far as we know, is nothing more than a lapse into savagery. Man is separated by a great gap from the animals nearest him in the scale of being. It is true that he is a member of the class *mammalia* as to his body, but he stands alone in his class, the sole species of his genus. The ape is contented with its surroundings; if it has food when it is hungry, it is satisfied. Man aspires to something higher. We find no remains whatever of intermediate forms. The earliest remains of man are still human, and tell us nothing as to previous stages of development. There is no evidence that sustains the assumption that the race began in a savage state, and gradually advanced until it reached the present state of civilization. Instead of the savages being the representatives of primitive man, they are degenerated from a once higher people. Drummond tries to escape the force of this fact by contending that savages are the result of evolution. He says: "Granted that nations have degenerated, it still remains to account for that from which they degenerated. That Egypt has fallen from a great height is certain, but the real problem is how it got to that height. When a boy's kite descends into our garden we do not assume it came from the clouds. That it went up before it came down is obvious from all we know about kite-making, and na-

tions went up before they came down, is obvious from what we know about nation making."* But this is a complete begging of the question at issue. While it is true that "all that goes up must come down," yet it does not follow that all that comes down must have of necessity first gone up before it could come down. We admit that that which comes down must have been up before it could descend, but deny that it must have first ascended from the earth before it could have fallen. The meteor that fell in a neighboring state a few months ago, did not go up before it came down. The real problem before us is the origin of the men that composed these nations, that have once enjoyed a high state of civilization, but have since fallen into decay. Did they first ascend like a kite from the lowest level of savagery to the highest civilization, and then fall to the ground again? Did they begin with a high state of civilization, and then fall from their lofty height like the meteor? The mere fact that primitive man came down—that he degenerated from a higher condition into a savage state—is no proof whatever that he developed from an ape. That we find everywhere nations that are degenerated, furnishes no proof that the earliest nations started as rude tribes of savages, and gradually developed into civilized nations. All that we know is that the nations beyond the dawn of history were higher than they were at a later period in their national history. And, for all that we know to the contrary, they may have begun their history at the very acme of civilization. The fact that they were more highly developed in prehistoric times than they are at the present, is strong

*The Ascent of Man, p. 138.

presumptive evidence in favor of this assumption. If man first went up before he degenerated, as Professor Drummond admits, the earliest man was not a primitive savage. It pushes his origin back beyond the limits of time allowed by geological history. And the so-called primitive savage is the result of degeneration.

If we push man's civilization further back, it does not leave sufficient time to evolve him from the lower animals. We discover that man, far back beyond the dawn of history, has enjoyed a high state of civilization, and, if evolution is true, it required untold millions of years to bring him to this high state of civilization. The age of the barbarian was long, but that of the primitive savage must have been much longer. The age of the apelike man was of great length, and that of the manlike ape was of still greater length. And as we trace the process of development back through the lower animals we find that the development of man by evolution is precluded by the limits of geological time. We discover the remains of men, who were a little nearer physical and mental perfection than the men of the present, who lived back yonder before the Glacial period. There are insurmountable difficulties in the way of the development of the race from anthropoid apes through infinitesimal changes. It seems reasonable, in the light of the facts, that man was introduced at once in full perfection, and that he afterwards fell as a meteor from his high estate, and not as a kite after he had ascended from an ape.

If man attained such a high state of civilization in the prehistoric past, according to the theory of evolution, he should be much further advanced than he is at present. Why is mankind now so far short of perfection?

Many savage tribes are in the same condition in which they were first discovered centuries ago. There has not been the least development in these races. These savage tribes have always coexisted with civilized nations. And many of the nations that once enjoyed the highest civilization have ceased to exist, while others still continue in existence, but have degenerated. In fact all the great nations of antiquity have either been exterminated, or live in diminished numbers and power. Man has reached the highest degree of civilization, and then has suffered degeneration. Retrogression among the nations of the earth has been more general than progress. Comparatively few peoples have progressed at any given time, the vast majority of the inhabitants of the earth having lived in a state of semi-barbarism, or in actual savagery. Civilized races have been frequently replaced by savage races. The uncivilized man has overrun the civilized man. The law that operates in animal life in destroying so many species, has operated among the peoples of the earth also. When perfection is reached it is prophetic of degeneration and death.

Nations have reached a high degree of civilization, then dwindled in power, and finally degenerated into barbarism. And when they have once degenerated into savagery they never civilize themselves. There is no historical evidence of a change from a savage people into a state of civilization by their own unaided efforts. Savage peoples have become civilized. The Anglo-Saxons were once the cruellest savages. But the transformation from savagery to civilization has been brought about only when some power outside of themselves has operated on them, and has lifted them up out of their savage

state. Civilization has been able to develop only when it has been governed by principles that are above the natural—that are, in fact, supernatural. When a civilized nation begins to cultivate the natural appetites and passions, that is, live a strictly natural life, they invariably degenerate. Nature, therefore, can not produce civilization, for nature destroys civilization. It takes something above nature to produce a high state of civilization. And human nature has not changed during the past centuries. Man is what he was thousands of years ago. If civilized nations follow in the footsteps of the nations that have fallen into decay, and cultivate their natural appetites and passions, they will dwindle in power and degenerate. And if this holds good through all the ages of which we have any knowledge, is there any reason for supposing that there was a time when the law did not operate? If savages can not civilize themselves at the present time, is it possible that the primitive savage civilized himself? If it takes a civilizing influence from without to elevate a savage people now, was there ever a time in the history of the race when man could lift himself out of savagery by his own efforts? This is an unwarrantable supposition, and therefore the conclusion is unavoidable that man started in life at the acme of civilization. And he afterwards fell into savagery because he violated these higher principles, and attempted to live on the plane of the natural, instead of the supernatural.

The civilized nations have been lifted out of barbarism, but there are other nations that have not made the least advance for a thousand years. We enjoy many privileges and have great advantages that our ancestors did not possess, but it does not necessarily follow that we

have any greater mental capacity than they possessed. The faculties of the human mind are essentially the same among civilized nations and savage tribes. The difference is only in the degree of their development. Our boast of intellectual superiority as a race is not well founded. The Australian native child has been able to hold his own in the schools with the English child. The child of the black man in this country has shown that he has a mind equal in mental capacity to that of his fair-skinned neighbor. The Negro slave has given us men, in the brief time that he has been free, that are the intellectual peers of the men of the race that held him in bondage. The Indian youth has proven that he has a mind equal to that of the American youth. A child of the Aleutt Indians of Alaska, whose ancestors had never had any educational advantages, was adopted by a gentleman in Chicago, and she graduated there a short time ago at the head of a class of twelve hundred pupils in the grammar school of one of the best residence districts. And Colonel Platt, after twenty years in the Indian school at Carlisle, holds that heredity has practically no influence on Indian children taken from their savage parents to be educated. He contends that the education of the Indians is nothing more than a human problem. And such facts as these show that these races are not in any way inferior to us except in such things as are the result of accidental circumstances. We have the benefits of a high civilization from infancy, while they are born in a state of barbarism. But in reality there is no difference between us and the less favored races. And the fact that the races that have lived in savagery for ages have shown the same mental ability that the civilized

racess possess, refutes the argument of evolutionists as to the state of the primitive savage, which is based on the inferiority of present savage races.

The claim that religion is but the accompanying manifestation of a civilizing process, developing with the upward trend of the race, is not well founded. It is not true that there was in the beginning a polytheism which gradually developed into monotheism, and monotheism developed through Judaism into Christianity. On the contrary, the worship of the one supreme God was first, and when men, through the violation of divine laws, fell into a state of degeneracy, they made gods for themselves of that which possessed the greatest power, or was to them the most mysterious, until in this way they had a multiplicity of gods. A careful study of the religious beliefs of heathen peoples reveals the fact that they believe, as a rule, in a supreme God, and that their idols are only meant to symbolize him. The belief in one supreme God led in this way to the belief in many gods, for as they became more debased and degenerated they were further removed from their earlier beliefs.

The earliest state of religion was the highest, just as the earliest state of gospel teaching was the highest. There was the pure worship of the one God in the beginning, followed by decay and the introduction of false gods and idol worship. There is no reason why a primitive savage should worship something inferior to himself unless the belief that it symbolized something higher led to this worship. The Chinese, for example, are idol worshipers, and worship many gods, but four thousand years ago they were monotheists. And the Africans have gods almost without number, but in times of extremity

they pray to the one supreme God without the aid of their idols to symbolize him.

And even since the introduction of Christianity there have been repeated retrograde movements in religion. The stream is always clearer and purer near its fountain-head, and as it flows further down, it is joined by other streams that darken and foul its waters. And the same is true with the waters of life, for religion is purer and freer from error in its beginnings than it is in its later history. The Church of Christ was purer in the apostolic age than it has ever been since that time. Moham-medanism was a retrograde movement, a reversion of type, going back to the primitive conditions of the patriarchial age. Roman Catholicism was a backward movement from a higher type of Christianity to the Levitical system, with a large intermixture of heathenism. And the same tendency is seen in religion that so often occurs in the progress of civilization; there are many new upward impulses, when the truth is freed from error and the church prospers for a time, followed by formalism and laxity of morals, resulting in a degenerated church. The development of religion no more harmonizes with the theory of evolution than the progress of civilization.

IV.

The one great barrier between the ape and man is language. And this is a barrier that has never been crossed by the brute creation. The fact that all languages descended from a common ancestral tongue, however, is employed as an argument for evolution. Modern languages are traced back to the Aryan family, and it

is asserted that the various languages were evolved from this language. But instead of modern languages being wholly the outgrowth of a process of evolution, they are as much the outgrowth of degeneration and direct coinage. It is true that there has been development in languages, but it is equally true that there has been degeneration. The process of degeneration has gone on until some languages that are spoken at present are less perfect than the more ancient language from which they descended. The primitive man who originated these languages must have had as perfect intellectual powers as any of his descendants. The grammatical complexity and logical perfection of these earliest languages, even as found among barbarians, imply a high intellectual capacity in their original framers. And where such complex and perfect languages are spoken by very rude peoples, like the natives of this country and Australia, it indicates that they originated with a cultured and intellectual people. Linguists point out the fact that languages have undergone degeneration, and conclude that man must have deteriorated at the same time. The descendants of the earlier people that inhabited this country have deteriorated into the savages we find them. But the language they speak, while it has degenerated so that it is not as perfect as that spoken by the earlier people, yet it has not become as greatly degenerated as the people themselves. The degeneration of the people being more rapid than the language they speak, accounts for the fact that many languages spoken by crude peoples have a richness of expression and a perfection of structure that could not have been brought into their high state of development by the people now speaking them.

Philologists adhere to the organic union of all languages. And evolutionists argue that as we have such a variety of languages, all of which can be traced back to one common tongue, that the present languages must have originated from this early tongue by a process of gradual development. We do not deny that there has been development in languages, but hold that these modern languages have not originated solely by a process of evolution. There have been many new words and phrases added to the languages that have been coined outright. Every new invention and discovery makes it necessary to coin new words, and language grows largely in this way. It is surprising how many of our words have been introduced into our language to designate some new invention or discovery. Many words are adopted from foreign and dead languages in this manner, without the slightest change, not even in pronunciation. And there are a vast number of words that are introduced into the language from slang. In fact, slang is but language in the making. A word originates to-day in this way, and in a few days it sweeps the entire country. It is placed under the ban, it is cast out of polite society, but in spite of good usage and polite society, it, not infrequently, gains a permanent place in the language. A supplement to a dictionary of our language, recently issued, shows that in the last ten years seventeen thousand new words, and new meanings to words, have been added to the English language. The growth of the language is much more rapid than most of us have ever supposed it to be.

The expansion of language, the coinage of new words, the introduction of new meanings to words, and the

pronunciation of words are all matters which are under control of the few, and have resulted, as a rule, by the arbitrary determination of dictionary makers. Language receives additions by the coinage of new words, and old words, becoming obsolete, are no longer used. Words like the fashions, frequently change, and then come into fashion again in a few years without any apparent reason. Words that some years ago became obsolete have regained respectability, and have, apparently, won a permanent place in the language. The changes in the language have been brought about arbitrarily without any satisfactory reason, and often in spite of good usage. We find that the expansion of the language has come by the coinage of new words, the addition of new inflections, the introduction of new meanings, and the change of pronunciation, and all of them have been accomplished more or less arbitrarily. The growth of the language does not seem to conform to the gradual development that evolution presupposes.

When a new language has been formed by the fusion of two peoples speaking separate languages, there is the same arbitrary adoption of parts of each distinct tongue. The new language consequently exhibits a greater or less preponderance of the characteristics of one of the parent languages, as the one population has compelled the other to adopt the greater part of its peculiar modes of speech. And the conquering nation does not by any means always force its language on the conquered people. What seems to be the unfit people often survives in the language. If they lacked the fitness to vanquish their conquerors on the field of battle, they conquer by imposing their language on the stronger people. And the

language that originates in this way is not always the best that might have been produced, by any means. The language, however, reaches a permanent form in spite of rules and the best usage. It is all brought about in a manner that does not admit of explanation. The results are unforeseen, and what the final outcome will be no one is able to predict. The formation of a language by the fusion of two peoples is far from being the result of the process of evolution, for it is accomplished in an arbitrary manner.

But how have the languages that are now spoken reached their present form? Have they been developed by the processes of evolution alone, or have other influences helped to bring them to their present state of perfection? Language, we find, radiates from a common center along the line of migration of the human family. It spreads out from this common center until it reaches the circumference of the race. Language changes more rapidly when men migrate into new countries, and are surrounded by new objects and face a new set of conditions. As these migrating tribes become further separated from the common center, they would be placed under circumstances where the language would change more rapidly; and as some of them migrated still further, there would be new conditions and new objects to name. A change from the low lands to the mountain regions, or from a timbered country to one with open plains would require the introduction of almost an entirely new set of words. The language would grow in this way largely by the coinage of new words. And not only by the introduction of new words, but by the loss of old words. Degeneration would soon begin, old words would be-

come obsolete and drop out of use, and at the same time, new words would be coined to take the place of those that had become obsolete. And after a time a new dialect would be formed, and, finally, after they had become completely isolated from the old parent stock a sufficient length of time, coming also in contact with other tribes that had undergone similar changes, a new language would be formed like the old, containing the old roots, but changed by the coinage of new words and the introduction of new meanings to old words, until it had become a new language.

But what shall we call this process by which the old language is lost sight of, and the new language is developed? It does not meet the requirements of evolution, for it is not a development from the lower to the higher language, but a degeneration from the higher to the lower. There is the loss of old words and the coinage of new words to explain new conditions and to name new objects. These two factors seem to us to be the chief ones employed in originating the new language. It may seem iconoclastic to claim that language is the outgrowth of any other law than that of evolution, but the facts undoubtedly bear us out in our conclusion.

We have an illustration at our very doors how languages have been formed by the loss of the old words and the introduction of the new. Emigrants have come to this country in youth, and becoming completely isolated from those speaking their language, have, after a time, forgotten their language. There are others that arrived later in life who retained their language, but being isolated for a long time from those who speak it correctly, they can hardly be understood by those that have come

later from the center where the language is correctly spoken. And these facts point out to us how the various languages originated from the parent language. As the families migrated from the common center, and became completely isolated from those who spoke the language correctly, they lost the inflection gradually until the language they spoke, though it resembled the parent language, became a new language. The evolutionist regards all these changes in the formation of the languages from the parent tongue as in harmony with his theory, but influences have been at work in language making that are utterly inconsistent with his hypothesis.

From the examination of the evidence set forth by the various sciences that treat the question of man's antiquity, we learn that man, in all probability, was introduced into the world in the full perfection of his powers. The evidence is abundant that his appearance was sudden, and seems to indicate that he was introduced by a miracle just when the earth was prepared for his presence. Man, unquestionably, was a nobler being with greater powers at the time of his advent into the world, than he is at the present time. The facts, as they have been ascertained by diligent research, are not only inconsistent with the evolutionary hypothesis, but they are in perfect harmony with the theory of special creation. Man is a revolution, not an evolution. He appeared at once, in full perfection, and not by a gradual process of development from the lower types of animal life.

THE ORIGIN OF LIFE

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"No matter how complex the protoplasmic molecule may be, its atoms are still nothing but matter, and must share its properties for good or evil, and among the rest inertia. Hence it can not change its state of motion nor rest without the influence of some force from without. True spontaneity of movement is, therefore, just as impossible to it as to what we call dead matter. . . . We are compelled to admit the existence of an exciting cause in the form of some force without to give the initial impulse in all vital actions."—*Drysdale*.

"It is certain that matter is somehow directed, controlled, and arranged, while no material, forces, or properties are known to be capable of discharging such functions. . . . I believe that it will be found that the institution of the series of preparatory changes which occur previous to the development of the lasting form and structure of tissues can only be accounted for upon the supposition of the existence of a power capable of foreseeing what was about to happen, and of determining beforehand the arrangement that would be most advantageous to the living being."—*Beale*.

"Besides the material substance of which the body is constructed there is an immaterial principle, which, though it eludes detection, is none the less real, and to which we are constantly obliged to recur in considering the phenomena of life. It originates with the body, and is developed with it, while yet it is totally apart from it."—*Agassiz*.

"It can not be that atoms of albumen, or fibrine, or gelatine, or the hypothetical protein-substance, possesses this power of aggregating into specific shapes; for in such case there would be nothing to account for the unlikenesses of different organisms. Millions of species of plants and animals, more or less contrasted in their structures, are mainly built up of these complex atoms. But if the polarities of these atoms determined the forms of the organisms they composed, the occurrence of such endlessly varied forms would be inexplicable. Hence what we may call the *chemical units* are clearly not the possessors of this property."—*Spencer*.

THE ORIGIN OF LIFE

THERE have been a great number of theories advanced by men of science to account for the existence of life on our planet. Darwin began his theory of natural selection with a few low forms of life, granting a special creation for these low types. Tyndall attributed life to primordial star dust. Huxley contended that the source of life was in Bathybius. He assumed that the gelatinous substance at the bottom of the oceans was a sheet of living matter. And this substance that enveloped the earth beneath the seas was regarded by him as the basis of life—a connecting link between the inorganic and the organic. But when the seas were dredged it was found to be nothing more than deep sea ooze.

Scientists have performed certain experiments in order to produce life, and have boldly claimed to have produced it by spontaneous generation. And it was positively asserted that life originates in this way. Evolutionists clung to spontaneous generation as a forlorn hope for many years. But other scientists performed the same experiments with greater care, not only destroying all life in the infusua by boiling, but at the same time completely shutting out the air, and there was not the least appearance of life developed in the infusua. Biologists were forced to abandon spontaneous generation as a theory to account for the origin of life, and were com-

pelled to adopt the conclusion that life can only come from antecedent life.

In attempting to discover the cause of life on earth, scientists have attributed it to various substances and traced it to numerous sources. And failing in their effort to discover the source of life, they have advanced the theory that life came to the earth from some other planet. Sir William Thompson suggested that life germs might have fallen to this planet on the fragment of a meteor. But even if this were true, it would not solve the problem of how life originated. This pushes the question further back, but does not answer it. It is a begging of the question by avoiding it. It has also been held that life is inherent in matter. But the condition of the earth and its atmosphere at one time were such as to absolutely preclude the existence of life on this globe. Life must have originated on earth after the earth was prepared to sustain it. Evolutionists have sought diligently in every field for an explanation of life, but they have been unable to discover that for which they have sought with so much untiring zeal.

I.

In more recent years the source of life has been traced to protoplasm. And this explanation being of a later origin demands a fuller treatment at our hands. Protoplasm was once held to be a single chemical compound of uniform existence. It was regarded as an albuminous substance composed of two or three simple substances. Scientists assumed the existence of an original life mass

from which the individual forms of life were developed. And when protoplasm was discovered it was held to be this original life mass. Protoplasm was said to be a homogeneous transparent jelly without any discernable structure. In this simple homogeneous substance lay the mystery of all life. Life had unquestionably been traced at last to its starting point in protoplasm. All that seemed necessary to do, in order to produce life *de novo*, was to make protoplasm by combining the few simple elements that composed it. They combined the elements in their proper proportions, but failed to produce living protoplasm. They could not make living matter out of non-living matter. These elements, when combined, formed a mere speck of jelly, containing the identical elements in their proper proportion, but there was the difference between them of the living and the non-living. If there had been nothing in the living protoplasm but matter, the chemist ought to have been able to have produced a living cell by the combination of the chemical elements in their proper proportion. The failure of the chemist to produce living protoplasm ought to have convinced evolutionists that the protoplasmic cell contained something besides matter. But they were not convinced that there was anything in the living protoplasm that science could not explain.

Protoplasm being regarded as the physical basis of life it was held that all life, plant and animal, began in the same way, all being evolved from this common life mass. And biologists confidently asserted that there was no difference between the cell of an oak and a palm, a worm and a man. They all had their origin from a common protoplasm. There could be no difference

whatever distinguished between the protoplasm from which these distinct forms developed. But because there was no apparent difference in the beginning of their development was no reason that there was no actual difference between them. It was true, as far as it could be discerned, that "Oak and palm, worm and man, all start in life together." The evolutionists made out a strong case for their theory. All life began in this simple substance. No difference could be distinguished whatever in the protoplasm of the most dissimilar plants and animals, and therefore they concluded that from the same protoplasm all life was evolved. In protoplasm all life lay dormant, awaiting favorable conditions to call it forth.

But protoplasm, however, is not the physical basis of life, for there is no such thing as undifferentiated protoplasm. Protoplasm does not exist in dead matter. It has baffled all attempts of scientists to construct it. The elements of which it was composed were so few and simple that it seemed that it could be produced without difficulty by combining these elements in their proper proportion. But there was one necessary element they could not add, that of life, and all their experiments failed. Protoplasm was found to be the product only of the action of previously existing living protoplasm.

The great improvement in the microscope in the last few years has enabled biologists to make a more careful study of protoplasm. The application of the reagents, necessary for the accurate study of protoplasm, coagulates and to some extent disintegrates it. But the study of protoplasm coagulated by reagents clearly indicates that it is not a simple chemical compound, but a mixture

of substances. It is not a chemical compound related to albumen. There are, on the contrary, many different compounds existing together, side by side, in protoplasm, making up what was formerly supposed to be one distinct substance. It is a collection of different substances in varying proportions, and not a compound of fixed and definite composition. The most numerous of these component elements are albumens, globulins, lecithin, cholesterin, chlorides, and phosphates. Some of these substances are extremely complex, containing hundreds of atoms in each molecule. Homogeneous protoplasm does not, so far as known, occur in nature. Life, therefore, does not begin with the simple and homogeneous, but with the complex and heterogeneous, which is contrary to theory.

But there is more known of the physical structure of protoplasm than there is of its chemical nature. By the use of microscopes with greater magnifying powers, it has been shown that in this apparently homogeneous substance there is a well-defined structure. Protoplasm is one of the most complicated bodies of which we have any knowledge. It consists of a small amount of firmer matter combined with more fluid substances. The firmer portions are composed of a complicated network of delicate threads. And suspended in the interstices of the network is a clear watery liquid of varying consistency. It is not certainly known whether these extremely fine threads interlace, forming meshes of network, or whether each thread is distinct throughout. There are large colonies of extremely minute granules, scarcely visible under the microscope, that move along these threads back

and forth, now grouping themselves in one way, then in another, and exhibiting almost ceaseless activity.

Protoplasm as a mass is made up of little independent cells about the two hundredths of an inch in diameter. And in these minute cells the structure is more complicated than already indicated. Each cell contains, besides the clear protoplasm, a specially differentiated part called the nucleus. In the nucleus there is a repetition of the threads, liquids, and granules in a manner even more complicated than in the main body of the cell. And in addition to these distinct parts, there is found in the nucleus a new compound called nuclein. The nuclein appears in the form of granules grouped in various ways. And the nuclein is not infrequently enclosed in a long endless tube, which is known as the nuclein tube. The nuclein is the most incomprehensible part of the protoplasm. It contains the properties of the entire protoplasm, and no doubt there is concealed in it the mysterious something that produces the animal or plant to which the cell belongs. In all probability it is the seat of the psychical principle which possesses the power to transmit to posterity the essential characteristics of the species to which it belongs.

Protoplasm is always the aggregate of individual cells, and these cells are made up of at least three distinct parts, the cell body, the nucleus, and the nuclein tube. There is no living matter simpler than protoplasm, and no protoplasm simpler than this cell with the three distinct parts. All these structures are necessary in order that there may be the simplest form of life. Protoplasm has had to be abandoned as the physical basis of life along

with the other substances to which the origin of life has been attributed. It can no longer be regarded as the potter's clay out of which evolution evolves the different forms of life. In itself, in its simplest form, it already shows the work of the artisan's hand.

Protoplasm exhibits certain phenomena. It performs important functions, and has the power of spontaneous motion. It possesses the power of assimilation, and takes non-living matter and builds it into a substance like itself. It has the power of reproducing its kind. Protoplasm is by no means a simple substance, but is rather a colony of granules bound together by different substances. It has a series of structures built up of distinct parts. There are threads, liquids, granules, nucleus, and tubes. Thus recent discoveries have completely overthrown the notion that the protoplasmic mass is the uniform source of life. Protoplasm was apparently a simple compound, and a structureless substance, hence it was proclaimed to be the primary and fundamental form of life. But protoplasm has been found to be a highly complex substance, made up of many distinct chemical compounds. It is produced by the agency of a previously existing living cell, and there is not a scintilla of evidence to show that it can be produced in any other way. There is, therefore, no such thing as protoplasm in general, which is the basic principle of life. There are only distinct forms of protoplasm. And the protoplasm of different plants and animals is as different as the plants and animals that are produced from it.

II.

When life is traced to its starting point, we find that it begins in a microscopic germ cell. The cell is a minute vesicle containing protoplasmic matter, fertilized by another germ cell. The starting point of the individual animal is in the fertilization of the maternal ovum by the paternal germ cell. In this way there is produced a germ cell by the fusion of two single cells. The union of two correlated elements is required to produce a perfect individual life. A complete vital entity is the product of two correlated vital principles. Fecundation consists in the paternal germ cell imparting a reproductive principle to the maternal ovum. This process can only take place between germ cells of the opposite sex, belonging to the same species. The exception to this rule is extremely rare, and where it does occur in kindred species it always results in a hybrid. The origin of each new being can be traced to a mere dot in the germ cell. The germ cell after fertilization contains an active causal principle which is necessary to the reproduction of the new animal. When fertilization takes place there begins within the cell the work of the organization of a new animal. But prior to this union neither the maternal nor the paternal cell is capable of setting up the work of organizing a new being.

The germ cell has an outward transparent covering, and in the interior imbedded in protoplasm, lies the nucleus, and in the nucleus there is the nucleolus. When the spermatozoa of the paternal cell comes in contact with the maternal cell, the effect is at once apparent in new

vigor and activity. The two pro-nuclei come in contact near the center of the maternal cell forming the segmentation nucleus. It is now prepared to begin the work of organizing a new being. When the two cells coalesce, each cell contributes a cellular substance of its own to the formation of a compound cell, and through this combination there is brought into existence a typical form and structure of a distinct organism. The first act in the cell is to cause an increase of its contents by the inhibition of vitalized nutrient matter. The next step in the formation of a structure is the enlargement of the nucleus of the germ cell. Then there follows the division of the cell's interior contents into two equal parts. And the original cell is now occupied by two nucleated cells with the old wall surrounding them. The cell produces the structure by segmentation. The elongated nucleus divides itself in the middle into two cells, the two into four, the four into eight, the eight into sixteen, and so on in like proportion, cells are multiplied almost innumerably as the work of organization progresses. And as the cells multiply they are co-ordinated and woven into tissue in accordance with the different plans of development suited to the forthcoming organization.*

All forms of life can be traced back to a single cell—a fertilized ovum—and every new cell originates by the division of a pre-existing cell. The spermatozoa of the paternal cell penetrates the walls of the maternal cell, its protoplasm is absorbed in the maternal cell, and the spermatozoa unites with the maternal cell germinal dot near the center of the cell. There is an inhibition of nutriment

*The Soul.—Collins.

through the walls of the cell, followed by the enlargement of the nucleus. The cell being thus supplied with the principle of life and material from the outer world, it begins to construct a living animal according to a given pattern, which it follows slavishly.

The living cell is an intricate machine, with fine adjustments of parts, and with marvelous powers of turning out work. In the cell are all the constituent elements and all the far-reaching possibilities of growth. In the germ cell lies the power of converting one element into muscle, another into bone, another into nerves, and another into brain. As a result of the fertilization of the maternal cell, there is produced an aggregate of cells which, by the physiological division of labor, specialize themselves for various functions. There are varied results from the same cause. Some cells build muscular tissue, some construct bone, while still others form nerves. The cells are not all alike, judging from the different functions they assume in the building of the body. The cells assume different functions just as in a social community one group of individuals devotes itself to the performance of one of the duties necessary to the well-being of the community, and another group devotes itself to the performance of another duty of equal importance to the interest of the community. The process proceeds by segmentation and division of labor until the completed animal is produced.

The single cell is conceived as the ultimate unit of organized matter. The cell has the capacity to unite with itself other minute particles of matter, and in this way form a larger aggregate of molecules. And evolutionists have claimed that this single cell has given origin to

all animated organisms, both plants and animal, and through an infinite series of organisms to the human race. Spencer says: "What can be more widely contrasted than a newly born child and the small, semi-transparent, gelatinous spherule constituting the human ovum? The infant is so complex in structure that a cyclopædia is needed to describe its constituent parts. The germinal vesicle is so simple that it may be defined in a line. Nevertheless, a few months suffice to develop the one out of the other; and that, too, by means of a series of modifications so small, that were the embryo examined at successive minutes, even a microscope would with difficulty disclose any sensible changes. Aided by such facts, the conception of general evolution may be rendered as definite a conception as any of our conceptions can be rendered. If instead of the successive minutes of a child's foetal life, we take successive generations of creatures—if we regard the successive generations as differing from each other no more than the foetus did in successive minutes; our imaginations must be feeble if we fail to realize in thought, the evolution of the most complex organism out of the simplest. If a single cell, under appropriate conditions, becomes a man in the space of a few years, there can surely be no difficulty in understanding how, under appropriate conditions, a cell may, in the course of untold millions of years, give origin to the human race."*

The improvement in microscopes and microscopic methods has shown, as we have already seen, that the cell is not the simple thing it was formerly supposed to be, and that it does not develop by a series of modifica-

*Principles of Biology, Vol. I, pp. 349, 350.

tions so small that they can not be observed. The cell is an intricate, complex machine, with different parts and distinct functions, capable of turning out marvelous products. This minute, living speck of matter contains in it, potentially, all the parts and organs that are produced by it. This is illustrated by the spontaneous division of the nucleus into a vast number of separate cells, each of which plays an important part in the formation of the animal body. And the changes are not so minute that they can not be distinguished under the microscope, but, on the contrary, are vast and sudden. The process by which the human body is built up has been as carefully observed as the construction of a dwelling-house. When the substances of the two parental cells unite, they divide and subdivide until the living being is fully formed. And in the union of these cells there is sufficient power created to cause these changes and the final production of the mature structure. It takes no small amount of energy to produce these phenomena of motion, inhibition, and construction, and maintain them until their work is finished. When the nucleated cell divides, the division of the nucleus, as a rule, precedes that of the whole cell. The cell divides itself suddenly before your eyes. Suddenly there come great changes and your one cell becomes two. Each of the new cells continues to receive nutriment, and the preparation of formed material goes on again. After certain development they suddenly divide again, and the two become four. And the process of construction proceeds in this way until the body is perfected. Le Conte admits that the changes in the embryonic development are sudden and revolutionary as elsewhere in nature. He says: "Most naturalists seem to think that sudden

change is inconsistent with the idea of evolution. It may, indeed, be inconsistent with any theory now before the scientific world; but this only shows that we have not yet a true theory of evolution. But others say the constancy of nature's laws necessitates change by insensible gradations. 'Nature,' they say, 'never goes by leaps.' On the contrary, although laws and forces are constant, phenomena almost always changes by leaps. Meteorological phenomena, such as storms and lightning—geological phenomena, such as earthquakes and volcanoes, are paroxysmal. Even embryonic development, the very type of all evolution, is paroxysmal always in some of its steps, and in many animals in several of its steps."* Professor Le Conte admits everything for which we have been contending as to the changes that take place in the phenomena of nature. He seems to have been more anxious to learn the truth, than to establish a theory. We have the highest admiration for his candor and fairness.

Spencer fails to distinguish between the development of an individual of a species from a cell and how the species itself came into existence. These are two separate and distinct questions. A part is taken for the whole. There is no analogy to be derived from the regularity and uniformity of the process by which individuals of a species are produced, as to how the species itself came into existence. For us to reason that because a germ cell produces a mature individual in a few years, that a germ cell in the course of untold millions of years has developed the human race, is overstepping the bounds of legitimate analogy. Because a man is produced in a

*Religion and Science, p. 25.

few years from a germ cell is no reason that, if we assume untold millions of years, a single cell will, by insensible gradations through a series of successive changes, produce the various forms of life from the lowest to the highest. It is true, that every form of life can be traced back to a germ cell, not, strictly speaking, a single cell, but a cell fertilized by another cell. All the possibilities of the future animal exist in the fertilized germ cell, for unless this were the case the cell could not produce the perfected animal. If the germ cell does not contain, potentially, the future animal, there must be an effect without an adequate cause. There can not be developed from the cell more than was contained in it from the beginning. And it is as impossible for us to conceive of the production of a living germ cell without a living animal, as it is the production of an animal without a germ cell. Life necessarily comes before organization. Functions result from structure. The formation of an organic body is a vital process, and life must have existed before there was an organism. There must have been life before there could be an organism so "simple" as a single germ cell, hence, we can not understand how a cell no larger than a pin head could give origin to the human race.

Whether each new species was created *de novo*, or whether there was created a primordial cell possessing all the potency of the world's life from the beginning until the present, the sum of the miracle is precisely the same. It would require the same power with either method, and in both cases it amounts to identically the same thing—the production of all organisms. The evolutionist may deceive himself into thinking that it is easier to produce

the life of this planet from a single germ cell in untold millions of years, than it would to produce it *de novo* by special creation; but it would require just the same expenditure of energy and the same amount of power in each case.

In the germ cell the future animal exists in all its distinctness and completeness, for in a later stage of the embryonic development we find that a distinct species of animal is the result of the development. And if the animal is developed from the germ cell, it must have contained it in all its distinctive parts potentially. The unfertilized cell does not have the power to develop itself into a living form, to say nothing of the power to develop higher and more complex forms. Whence did the the first cell originate? Where did it obtain this invisible power to transform material elements into a living body? If the first cell had the power to unite to itself other minute particles of matter, whence did the cell get this power? The cell must have been created at some definite time and this power imparted to it, otherwise the first cell was not a created thing, but, on the contrary, a self-existent, all-powerful entity—a veritable Deity.

Evolutionists would have us believe that from a single cell all the various forms of life, races, and types of animals, in process of time, have been gradually produced out of each other in an ascending scale until man is finally reached, who is the crown of the evolutionary process. But the cell which is necessary to the existence of every living being is the product of a previously living being. Even the animal form lowest in the scale of being can be produced only from germ cells originating in previously living organisms of similar structure. The

simplest living organisms are thus to science ultimate facts for which it can not account except conjecturally. There has been no evidence found to show that life is ever produced without antecedent life, and there is nothing to lead us to believe that it has been produced in any other way. The protoplasmic cell has no life of itself unless it is touched with already existing life. Before any particular form of life can originate there must be a pre-existing germ cell belonging to that particular species endowed with marvelous potencies. There can not be developed from this cell what it does not contain. The homogeneous, before it can develop into the heterogeneous, must contain the heterogeneous. If the human race developed from a primordial germ cell, mankind must have been contained in the cell before the process of development began. All animal life owes its existence to pre-existent animal life. And it certainly is a stupendous assumption to suppose that a simple protoplasmic cell could contain within itself all the processes necessary to produce all the life on this planet, including the human race. But if evolution is true, all the forms of life that have ever existed, or ever shall exist, were contained in this primordial cell.

We can trace the various forms of life back in thought, according to the requirements of evolution, to a first living cell, but what was back of the primordial cell? If life can be produced only from antecedent life, how did this first cell originate without prior life? The materialistic evolutionists insist that under proper conditions matter has produced life. But they have never been able to supply these conditions, and are forced to fall back on the assumption that these conditions did exist in the

earlier history of the earth. Life is constantly appearing in new individual forms, but invariably from antecedent life. If it were possible to evolve life from matter at the present time, it would be convincing evidence that this had been done when life originated, but the most skilled chemist is unable to manipulate the forces of matter in such a way as to cause them to generate life. If life is a property of matter, the fact is certainly capable of being demonstrated. Evolutionists should demonstrate their claim by producing life from matter. If they can not demonstrate this fact, they should abandon their claim, for their deductions are valueless unless they can demonstrate them. If life is one of the properties of matter, the fact could not have escaped the persistent scrutiny of the scientist all these years. It is a begging of the question to say that life was once a property of matter, but that life and matter are now separated in nature by an impassable gulf. There is nothing but pure assumption to substantiate this claim. But this is a question of fact, and it must be substantiated by fact. Matter can not possess the property of life at one time, and be divested of it at another time. Life is or is not one of the properties of matter. If it is not now a property of matter, it never was.*

Matter is not all-powerful and self-sufficient. Life never proceeds from matter as its cause, for matter can not originate itself, much less create life. All the combined forces of matter can not produce a single atom of matter. Inertia is a property of matter, hence it is incapable of producing any change in itself. It can not in-

*Matter, Life, and Mind.—Moore.

crease in size by expansion. It is made up of distinct and separate atoms, and is increased in size only by the addition of more atoms. And the atoms of matter are unchangeable, they are the same they were when the globe existed in gaseous vapor. The atoms of matter assume different forms; they are now connected with a living body, and again they become separated and become a part of non-living matter. Matter in whatever form it is found is unchanged in essence. It may be non-living, or living matter, but it is matter still. We speak of living and non-living matter, but strictly speaking, it never becomes living. It is merely correlated with life, and is not itself alive. It undergoes no change in essence in its transfer to an organic body. All the fundamental properties of matter exist in organized matter. Until it is shown that matter is capable of self-organization, evolution can not be substantiated. Blind, inanimate forces do not construct intricate machines with power to take non-living matter and transform it into living matter. The germ cell performs a marvelous work in converting non-living matter into living matter. And in order to explain the origin of life we must discover a force capable of constructing this intricate cell machine.

III.

Each separate germ cell contains only a part of the vital principle required in the formation of a living animal. The maternal cell can not set up the organization of a new animal without the union of a germ cell of the opposite sex; hence, there must be some essential prin-

ciple added by this act to the maternal cell. It may be more correct to say that by this union of the two cells there is brought into existence a new principle, capable of bringing into existence an independent being, which the single cell was wholly incapable of doing prior to this union of their contents. All life, it is true, is built up from a single form, that of the cell. It is not, however, built up from a single cell, for it is necessary for the single cell to have added to it the contents of another cell before it can begin the process of constructing an animal body.

The formative principle that co-ordinates the structure of each animal is furnished at the fertilization of the germ cell. This principle being imparted to the cell, it immediately shows signs of great activity by the changes that take place in its plasmic cell contents. A miniature revolution is set up, which results in a short time in the cells severing in twain, and becoming two distinct cells. When the fecundated cell separates into two, the vital principle is imparted to both, and separates these two into four by a similar process. The formation of the body is the result of a series of revolutions that take place within the cells as they are formed. There is after each new division of the cells a slight pause during which there is inhibition of nutrient material through the cell walls, followed by a new division of the cells. The process of segmentation continues until the body with all its complicated parts and numerous functions is completely formed. The two cells divide into four, the four into eight, and so on, until the entire body is completed by the extension of the same principle that divided the first cell.

We may learn just here how a living being comes into existence. Before an animal can come into existence there is, what we may term, a creative act. A definite act must take place, a revolution must be started, prior to the development of a germ cell into a living being. After the two cells have united and there is formed from their contents a compound cell, the work of organizing a new being is begun. The fecundated germ cell now exhibits its marvelous powers, taking the materials at hand and building up a body wonderful in its construction of parts. This is a miracle in the true sense of the word—a work that transcends our comprehension. And it is performed by an agent apparently too weak to accomplish such a marvelous work. This minute speck of protoplasm composed of these cells, contains, potentially, the animal completed with all its organs, functions, and powers. This invisible power that transforms these material elements into a body with muscle, bone, nerves, and brain, is brought into existence by the union of these paternal and maternal germ cells. What is this power that begins the formation of a new being in the fecundated germ cell and enables the process of life to continue until the animal is perfected? The answer to this important question is not far to seek.

This hidden energy that forms the body was imparted to it. It was something outside of itself taking hold of its materials and forming a new body. The germ cell contains in itself, after fertilization, an active causal principle necessary to the production of the new animal. This active causal principle is the psychical entity. The soul is the architect of the body. It matters not how complex the protoplasmic cell may be chemically, its atoms are

nothing but matter, and can not change their state without the aid of some power not inherent in matter. There is a force, however, that operates in nature which has never been known to originate from matter. Organic matter never exists except as the product of a pre-existing psychical entity. The psychical principle is not inherent in the mass of matter. It does not exist in the separate atoms of matter, but exists only in life. The psychical principle is the vital force of life. Matter does not evolve the soul, the soul takes matter and builds of it a body after its own nature. The initiating and controlling force of the organization is, beyond a reasonable doubt, the psychical principle.

Each species has a psychical nature of its own, and distinct from every other species. And this psychical principle is transmitted from the parent bodies, when the maternal and paternal germ cells unite their cellular contents. In this way a new being is brought into existence. When the two parent cells coalesce, they transmit the psychical nature of the species to their offspring. It might be more accurate to say they beget a new soul, and that this new soul builds for itself a new body. The bringing into existence of a new being does not require a special act of creation by the Almighty Creator. The species have the power given to them to reproduce after their kind. The soul descends from the parents by transduction. The power to propagate the species includes the power to reproduce the soul. Each species brings forth after its kind an animal in all particulars like itself.

A new individual life can be produced only as a new psychical principle is brought into existence by fertilization. Before living protoplasm can become something

distinct from the life with which it is connected, it must be brought into that form of life by the action of a psychical entity. And this psychical agent can not be originated by any process of evolution. It must be brought into existence by the action of the same kind of psychical nature as itself. When correlated vital principles unite they form a new being by means of the creation of a new psychical principle. Back of the vital energy that builds the body is the psychical agent. The psychical agent utilizes and controls the forces of matter. It assimilates nutriment and builds this matter into living forms. It selects the matter it can appropriate to the use of the structure it is building, and transforms it into the texture and parts of the organism to which it belongs. Evolutionists have overlooked the sole cause of the existence of organic bodies, namely, the psychical principle. It is a vastly greater miracle for matter to work itself into living organisms, than to be lifted up into correlation with life by the psychical principle of that form of life. If matter works itself into life, it means an endless miracle for every new being that is brought into existence.

The psychical principle is the immaterial part of the animal that dwells in the body. And it is this immaterial soul that constructs the body, and determines what the future animal shall be like. This psychical principle is transmitted to the offspring by the parents at conception, and has no existence until after conception takes place. And this immaterial principle varies the form of the animal, causing it to conform to the species to which its parents belong. There is in each new being brought into existence, not only a conformity of the bodily structure to its species, but, likewise, a conformity in regard

to the intellectual endowments that characterize the parentage and the species. And this conformity to type is accounted for because the soul builds the body, and not the body the soul. This process is just the reverse of that advanced by evolutionists. They have contended that man's higher faculties are the product of physical development, but, on the contrary, the body has been developed by the psychical part of the being. There is no difference in the matter that is built into various organisms, but there is a decided difference between the builder that constructs the different organisms, and just here is the explanation of the difference in the organisms themselves.

Evolutionists fail to take into account the reason that one organism differs radically from another, the fact that the producing causes differ. The difference in the psychical principle accounts for the difference in the organisms themselves. The body of the animal is formed in strict accordance with the involutions of the powers that formed it. The unfolding process of the body corresponds in each case with the nature of the psychical principle. The psychical principle of different species is the basal cause of the organic world. The soul of the animal builds up the animal body after a fixed pattern. The psychical principle possesses the potency adequate to control and build up matter into various forms of life. The psychical principle of a man builds a man, that of a worm builds a worm, and never any other form of animal. The leopard can not change his spots because he is a leopard, and must reproduce himself in his offspring. The animal body is the perfect symbol of the psychical agent by which it was produced, and which dwells in the body.

The oak is but the visible expression of the life that once lay dormant in the acorn. The potency that gave the tree its texture and form existed in the seed from which it sprung. And the reason that the oak differs from the palm is because of the difference in the psychical principles that gathered their substance from the earth and air and built them into their present form. If the psychical principles of the trees had not been different, the trees would have been exactly alike.

“Read my little fable;
He that runs may read.
Most can raise the flowers now,
For all have got the seed.”

One kind of life can never become another life of another kind. Each animal species has power to reproduce its kind, and no further power. The psychical principle of the first man, by a process of multiplication, has produced the human race. Life has a potency of its own independent of matter, and each unit of life has power to reproduce itself by coalition with another unit of its kind. This is all that has been imparted to it, and all that the individual pair can impart is what they have received. And, therefore, for the production of a new species there must be the creation of a new psychical principle to perform the work of building up the physical structure of the species. This necessitates a miracle for each distinct species, but after this single miracle at the beginning of the life of the species, the species is continued by the psychical agent. But if evolution is true, there must be a miracle for each individual animal, and

an endless miracle in the nourishment of the species from day to day.

The vital principles of the animals of the same species produce an individual of the species, and in this way an endless reproduction is the result. The new principle that is brought into existence at the fertilization of the maternal germ cell is concealed in the protoplasmic matter of the cell, but it can not be seen by the aid of the microscope with the greatest magnifying powers. But nevertheless we know that it is present, because we see the effect of its presence in the development of the animal. This immaterial principle is the cause and explanation of the developed animal. The hidden potter molds the various forms of life according to a fixed design. There is no way to account for the production of the various animal species from the same material substances, except on the assumption that the vital principle of these animals is introduced into these substances, and afterward constructs the different animal bodies. Where there are such a variety of effects there must of necessity be a variety of causes. The fact that they are all formed of the same matter is of no importance, inasmuch as the psychical principles that construct them are entirely different from each other.

There is something more in life than a molecular machine. There is back of life and above matter, a psychical entity. The psychical principle is the cause of organic life. The building of the body is directed and controlled by this principle. The new psychical principle that is brought into existence at conception is the active causal energy that manifests itself in the fertilized germ cell. As the process of building the bodily structure proceeds,

new organs and parts make their appearance and take their shape from the nature of the animal principle that fashions them. The worm is fashioned in the likeness of the vital principle that constructed it. And the body of the man is the glorious symbol of the human soul that built the material elements into their bodily form. The hidden potter shapes and reshapes the plastic clay into a perfect likeness of itself. The changes that take place in the germ cell are in obedience to an internal law of the animal's being. The body is shaped and all its parts are molded in accordance with the ideal conception of the species to which the animal belongs. The essential difference between two cells which the microscope fails to distinguish is in their psychical character. One of the essential principles of the laws of development is that the formed product—the completed animal—is simply the outgrowth of the psychical energy that resides within the cell. Two germ cells may resemble each other so nearly that it is impossible to discover any difference between them, and yet they may be entirely different from each other because of the different psychical principles within them that determines their development. In each germ cell there is involved the type of animal that belongs to the species of which the maternal and paternal cells belong from which it was formed, hence, there is always developed from the germ cell an animal belonging to that species. The germ cells appear similar to the observer, but in reality they are as profoundly dissimilar as the animals that are developed from them.

The germ cell of one species never produces an animal belonging to another species. The germ cell of one species can not be fertilized by an entirely distinct species.

There are a few closely similar species that can produce offspring by crossing, but a hybrid is invariably the result of such a cross. These closely allied species can take a single step toward the production of a distinct species, but here the process is arrested because there is lacking in the hybrid a perfect psychical principle. The defect is not in the bodily organism, but in the psychical principle. If a new and distinct psychical entity could be produced, there would be no difficulty in producing a new and distinct species. But for the production of a new psychical principle there must be an adequate cause, a cause sufficient to produce all the species. The germ cells of different species have little in common, except their form and the material elements of which they are composed. They are as dissimilar as the essential principle that pervades them. No matter how nearly they resemble, they are as unlike as the animal that is developed from them. The essential difference between them may not be distinguished for a little time after they begin to develop, but because we can not discern the difference between them, does not prove that they are identical in the early stages of their development. The germ cell always produces an animal after its kind, and never makes a mistake and produces an animal belonging to another distinct species. The psychical principle belonging to that species actuates the individual germ cell and produces an individual animal of that distinct species. The fact that the embryonic development of certain species is similar is an indication that they were created after a uniform plan. But notwithstanding all that evolutionists have had to say of the similarity of the development of certain species, there never has been a

change of one species into another and distinct species. And the mere fact of the similarity of their development is no proof that there has ever been such a change. They do not recapitulate any such process in their embryonic development. If we were able to discern immaterial things, we would find that the embryonic development of these species is as dissimilar as the animals that are produced by it.

IV.

The fact that the species produce their kind, generation after generation, is accounted for by supposing that the germ cells are handed on from generation to generation without interruption. This is called the doctrine of the continuity of the germ-plasm. This is a materialistic conception, but is necessary in order to render the evolutionary hypothesis consistent with itself. But the resemblance of the offspring to the parent animal is not inherited through the matter that composes the germ cell. The resemblance is transmitted through the psychical principle. The power to reproduce the species after its kind resides in the soul of the animal. And the cause that would affect a change in the structural form of the future individual animal must pre-exist in the germ cell, and no external cause operating on the adult animal can have any effect on the offspring except as it modifies the germ. In fact, no change can be made in the future animal except by an influence that reaches the psychical nature of the parent animal.

The characteristics of the individual animal are regarded as being transmitted to the offspring by means of

the germ cells. The cells of the body are supposed to receive an impression from each act that is performed. And it is claimed that when the cells of the body become exhausted they have the power to transmit to their successors that which they have acquired. The individual performs an action, and the character of that action is stamped on some cell of his body. The cell that receives this impression transmits it to its successor, and so on indefinitely. The reproductive cells are supposed to transmit to their successors in this manner the characteristics of the species to which they belong. And in this way the species are enabled to reproduce their kind throughout their history. But this is an unreasonable supposition. The doctrine of the continuity of the germ-plasm, which teaches that the cells leave their impressions as legacies to other cells, falling into the places that they have vacated, is contrary to reason. If the personality of the individual was evolved from matter, how does it come that the personality remains the same, when the matter of the body is constantly changing? The materials that make up the body make a complete change, perhaps, in one year. In the course of a long life a man has been connected with several tons of matter, but he himself has not changed. He has maintained his identity amid the wear and waste of his body, showing that he is different from the matter that has composed his body. If the personality resides in the matter that composes the body, how can the personality remain the same, while the matter of the body is wholly changed in a comparatively short period of time? If the soul dwells in the body, and is not a part of its material substance, there would be no changes in the soul though the entire

body frequently changed. We contend that the explanation of the permanency of the personality in a changing material body is in the fact that the psychical entity remains unchanged.

If the cell theory is true, there is no reason, as far as we can see, why the material body might not perpetuate itself for an indefinite period of time. Its life depends only on the materials that compose it, and its perpetuation on its ability to assimilate food to sustain its cells. Why should it ever cease to live, if it is not destroyed by some accident? The body fails because the soul ceases to perform its functions. There is a limit set to the union of the body and soul, and because of this limitation death ensues. The body in the living state loses all its particles, and although these are replaced by new materials, the form is retained from year to year. And the atoms that pass out of the system do not transmit their characteristics to the atoms that come into the system. If the matter makes the body with the renewal of the body there would be a new personality. The man in his old age knows that he is the same personality that he was in childhood. He has inhabited several different bodies, but he knows that he himself has not changed during his life-time.

The causes that produce changes in the progeny of a species are only such as affect the psychical principle, not such as affect the material substance of the adults of the species. Weismann holds that all the evidence is against the perpetuation by heredity of characters acquired by the individual. He shows that only characters born with the individual can be perpetuated by him. Evolutionists have claimed heredity as one of the chief

factors in their hypothesis, but, if the position of Weismann is established, it is fatal to the theory. Characters that are impressed on the individual by accident, or merely external influences are not perpetuated. The characters that are congenital, such as originate in the germinal matter of the parent, have power alone to affect the germinal matter of the offspring. That which affects the emotions and the imagination strongly, and by this means the mental and psychical nature of the adult, will affect more or less the germinal matter so as to affect the offspring. There could be no variation in the species from environment or individual habits except as they affected the prenatal life of the offspring.

No changes can be transmitted to the offspring except such as arise from causes that affect the reproductive function. If a child is born with a hair lip, this defect is likely to be perpetuated in some individual of the next generation. But a child might receive a much worse disfiguration by accident without this disfiguration being transmitted to posterity. The modifications that are acquired by mutilation, use, or disuse, are not transmitted to the offspring because they occur in the life-time of the individual. And they are not inherited because they merely affect the physical, and not the psychical nature of the individual. No matter how large the bicep muscles of the athlete may become by constant training, his child inherits no larger muscles. And no matter how small the muscles of a man who leads a sedentary life may become, his child inherits no smaller muscles. No effects produced in the individual during his life-time can be transmitted to his children except such as affect his psychical nature. He can transmit only what he himself

has inherited. Heredity produces only that which has gone before. But Spencer says in his reply to Weismann: "Either there has been inheritance of acquired characters, or there has been no evolution." And there is no escaping this conclusion. For, if the acquired characters are not transmitted, the doctrine of evolution utterly breaks down, because it depends wholly on external modifications being inherited and transmitted to the offspring. Heredity operates within certain limitations. It can transmit inherited characters, but is powerless to transmit those that have been acquired. The causes that affect the germinal matter are psychical, not physical. The cells of the body that transmit the characteristics of the individual are in the germs of procreation, and are not exposed to external changes. They can only be reached through the psychical nature of the individual, and for this reason are not subjected to the influence of environment and individual habits which are regarded as primary factors in the evolutionary hypothesis.

Individuals of the same family are found to be marked by striking peculiarities of structure and ancestral traits, which appear and disappear, and then reappear in successive generations. The same peculiarity is often transmitted from one sex to both sexes, or to one sex alone, more commonly, though not exclusively to the like sex. But there is nothing in atavism to substantiate the doctrines of evolution. The fact that a peculiarity is transmitted from one sex to the opposite sex can not be explained by the assumption that one cell, that of the parent possessing this peculiarity, was more vigorous than that of the other parent, and hence predominates in the offspring produced by their union. The true expla-

nation is to be found, not in the vigor of the germ cell, but in the psychical principle. Every animal has a nature of its own, and always develops after its own law, hence the development results in an animal of the species of which it is a member. But one parent may give more to the offspring than the other, because the psychical principle of that parent predominates in the conception, and largely controls in the formation of the new psychical agent. The idea once prevailed that the mother gave three-fourths to the offspring, while the father gave only one-fourth, but, except in furnishing nourishment, the mother gives no more to the offspring than the father. Sometimes one parent gives more seemingly than the other, but the psychical principle of the one predominates in the offspring in some manner in the conception that impresses the likeness of that parent more than the other, but, as a rule, the characteristics of both parents are transmitted. And some persons will see the characteristics of one parent, and some will observe the striking resemblance to the other. Usually, however, the resemblance to one of the parents is stronger than to the other.

If evolution is true, the most striking thing about heredity is what we do not inherit. It is only an infinitesimal part of all that distinguishes the parent that the child inherits. The animal inherits the instincts of his species that tend to preserve life, but the child does not inherit the experiences of the parent that would be most helpful to him. Children begin life just where their parents began it, without knowledge and without skill, though they have the advantage of the accumulation of knowledge and modern improvements. But they

are, in reality, physically, intellectually, and morally no higher in the scale of being than their parents. Man is weak and helpless at his birth, and from the physical point of view is inferior to the lower animals. But the inferiority of man as an animal is indicative of his superiority as a man. His superiority is in his mental powers and his moral nature, whose possibilities are not manifested at his birth, but appear later in his development. The lower animal inherits its instincts to do whatever it does, build a nest, make a dam, or hide from an enemy at the cry of danger from the parent. Man can not, as a rule, make anything at his first trial, even if he have the object before him to imitate. He learns after long practice, by doing the same thing over and over again. If heredity had any such power as that which has been claimed for it by evolutionists, man ought to be able to transmit his acquired knowledge and mechanical skill to his offspring. This would remove the necessity of the child's having to learn, and the parent would have the pleasure of knowing that his child would follow his profession or trade, and not grow up with an aversion to it, and persist in following something entirely different. If acquired characters could be transmitted, this would actually be the result. But it is fortunate for us that we do not inherit acquired characters, for if we did the world would be filled with monstrosities after a while. The mechanics would be all arms, the scholars would be all head, and the farmers would be all feet and legs. What a world of chance this would be, if the hypothesis of evolution were actually true.

The resemblance of the child to the parent is not in-

herited through the physical man, but through the psychical nature. The real likeness is in the soul. The male offspring does not follow the precise type of the father, nor does the female follow the precise type of the mother. There is always a portion of the female in the male offspring, and of the male in the female offspring. Sometimes the characteristics of the father predominate, and sometimes those of the mother. And often the peculiarities of a grandparent, or even a more remote ancestor, appear in the offspring. The offspring resembles the parent, grandparent, or remote ancestor, because there is a close resemblance between their psychical natures. From the materialistic point of view it is a miraculous thing that the species should breed true, and especially that the characteristics of ancestors should reappear after generations have passed. But when it is understood that the characters do not reside in the mere physical part of the man, and hence can not be transmitted through the mere physical nature, it is not difficult to comprehend how there may be the closest resemblance between the offspring and his remote ancestors. The inheritance being through the psychical nature we can understand how a generation or more may pass, and then the characteristics of the ancestor reappear in a descendant.

The cause of the reappearance can not be in the physical structure, for such changes take place in the physical organism in the course of a few years as to render this an impossibility. Darwin says: "After twelve generations, the proportion of blood, to use a common expression, from one ancestor, is only 1 in 2048, and yet, as we see, it is generally believed that a tendency to reversion

is retained by this remnant of foreign blood.”* But it is an absurdity to suppose that one part of blood, in more than two thousand parts, could retain any such far-reaching power. Suppose the number of generations be increased to one hundred, or one thousand, and the amount of blood remaining could not be discovered by the microscope with the greatest magnifying powers, yet the same tendency to reversion continues to manifest itself. The fact of the matter is that the tendency is not in the blood at all, but resides in the psychical principle. An individual may resemble an ancestor a hundred generations removed, when all the foreign blood has been eliminated from the line of descent. The true explanation of the reappearance of the ancestral trait is that it is inherent in the psychical nature of the being, and reappears under favorable conditions. The resemblance between a child and his remote ancestor may be in the fact that their psychical natures are alike, which accounts for the physical likeness between them. Take the example of dogs that have been bred for some specific purpose for many generations. And they point and retrieve at such an early age that, beyond doubt, it is with them an instinct. It has become a part of the psychical nature of the animal. The young bird when it hears the cry of danger for the first time conceals itself, and shows all the cunning that has been the accumulation of ages of the experience of the species. This knowledge of how to point in the dog, and to hide in the bird is in the psychical nature of the dog and the bird. And it has been transmitted through the psychical principle from one generation to another in

*The Origin of Species, Vol I, p. 196.

the past, and will be transmitted for generations to come, because it is inherent with them.

If there is a lingering doubt in the reader's mind as to the truth of our position, we can remove it by showing that it is utterly impossible for the instincts to be inherited through the blood. It can be shown beyond question that the most wonderful instincts that we know anything about, namely those of the bee, could not possibly have been acquired by habit, or through heredity, according to the requirements of evolution. These instincts are inherited through the psychical nature of the bee. The cell making instinct of the bee is marvelous. The cells are made just the proper shape to hold the greatest amount of honey with the least possible consumption of wax in their construction. This skill was not inherited from a bee that was a mathematician, and had figured out by higher mathematics just the size and shape to make the cell, but was implanted in the nature of the bee from the very beginning. That we inherit through the psychical nature and not through the physical, or the blood, is clearly shown by the bees in maintaining the life of the colony. The males are non-producers, hence are called drones, their only value being in reproduction, as a result of which they perish. The females include the queens and workers. The workers are undeveloped females, which are reared in smaller cells and fed on less stimulating food than that which is fed to the queens. The queens are given a highly nutritious food, which fully develops the sexual organs. The queen's function in the colony is to lay eggs, and she usually lives from three to four years. It is the function of the workers to provide and care for the queen, the

drones, the larvæ, as well as themselves. This work is systematically and skillfully accomplished by a division of labor, though the workers do not live longer than six weeks in the active season. The ancestors of the workers never did any of this work. The queens and the drones do not work, and, perhaps, never have worked. But the workers inherit the ability and skill to perform their labors from ancestors that evidently never did any work.

And the workers do not only perform this ordinary work of keeping up the life of the colony, but when occasion demands, perform extraordinary work. They show great knowledge and skill not only in feeding each separate larva, and developing from the larvæ a drone, a worker, or a queen, but should the queen be killed accidentally, or die in some unforeseen way, when there were eggs in the cells, the workers, after making a careful search for the lost queen, proceed to create a new queen. They take a young worker larva, break down the walls of the adjoining cell, and destroy the larvæ in these cells. They then build a large cell for the young larva, and feed her on the more stimulating food in order to develop the sexual organs, and in a few days she comes forth from her cell a fully developed queen. In this manner the life of the colony is perpetuated. This production of a queen from the larva of a worker may not have occurred for a thousand generations, perhaps never in the life of their direct ancestors. But the workers know exactly what to do under the circumstances, and they understand just how to go about the work of producing a new queen. There is absolutely no possibility of their having inherited this instinctive knowledge from their ancestors that had performed the same thing. In reality

they have no ancestors from whom to inherit this knowledge and skill. The instinct of the worker in performing the ordinary work in feeding the larvæ, building cells, gathering honey, and in performing this extraordinary work, when occasion arises, in perpetuating the life of the colony must reside in the psychical principle of the bee. It is an innate principle of the bee, and is not handed down from their ancestors near or remote. In the working bee we have instincts differing widely from its parents, yet it is absolutely sterile, so that it could not transmit successively acquired modifications of structure, or for that matter, any other acquisition to its progeny, because it has none. Here is a case that can not be reconciled with any theory of transmutation held by evolutionists. The instinct of the bee is not in the blood, but is in the psychical principle. And through the psychical nature of the bee it is transmitted to posterity.

We find among certain species of ants the same conditions existing that prevail in the bee colony. There are workers in ant colonies that differ widely in instinct and structure from the males and fertile females, but they can not propagate their kind for they are sterile. Darwin says of these ants: "If a working ant or other neuter insect had been an ordinary animal, I should have unhesitatingly assumed that all its characters had been slowly acquired through natural selection; namely, by individuals having been born with slight profitable modifications, which were inherited by the offspring; and that these again varied and again were selected, and so onwards. But with the working ant we have an insect differing greatly from its parents, yet absolutely sterile; so that it could never have transmitted successively acquired

modifications of structure or instinct to its progeny. It may well be asked how it is possible to reconcile this case with the theory of natural selection?"* The author attempts to reconcile the existence of the sterile worker ants with his theory, but utterly fails in his effort. The fact that worker bees and ants inherit these marvelous instincts, though they are without either ancestors or progeny, is inconsistent with the theory of evolution, and is utterly inexplicable by this hypothesis.

That sterile insects inherit marvelous instincts, without ancestors from whom to inherit them, proves that there must be some other way to inherit except through the blood. Their existence with widely different instincts and structures from the males and fertile females establishes beyond a reasonable doubt the fact that what is transmitted to posterity is through the soul, and not through the physical organism. It is through the psychical principle that the characteristics of the species, whether insect or man, are transmitted. The species are held true by the soul life through countless generations. The reversion of type that we so frequently witness in our domestic species, and that so completely baffles all attempts to produce new species, lies in the psychical nature of the animal. And instead of heredity proving the truth of evolution, it furnishes the most convincing proof against it. It reveals the fact that acquired characters can not be transmitted to posterity, and establishes the further fact that the most complex instincts are transmitted to posterity through the innate principle of the being.

*The Origin of Species, Vol. I, p. 357.

In the origin of life we observe the operations of the three great laws of nature. When the maternal germ cell is fertilized by the addition of the contents of the paternal cell a revolution is started, and a new animal is produced by segmentation. A new being is brought into existence by the creation of a new psychical principle. And a process of development follows, which brings the new individual to perfection in adulthood. The individual having reached the perfection of his powers, maintains his strength and vigor for a period of time, and then decays and dies. The reproduction is always in a circle, psychical principle, organic structure, and psychical principle. The complex organism becomes mature, resolves itself into a new psychical principle, and is finally dissolved into its constituent elements. The same life principle has passed through these cycles of changes from the time the species originated.

We have traced life back not merely to a single cell no larger than the head of a pin, but beyond the simple germ cell to a psychical agent. We know that matter is incapable of self-organization, and therefore there must be back of the protoplasmic cell a living active principle in order to account for the organization of the material elements into a physical structure. There must be a living active agent capable of taking the material elements and building them into a body, and we find this vital force in the psychical entity of the organism. We find in our study of the processes by which life is maintained on earth, no evidence that living forms have been produced by evolution, but find that there are life forms that can not be accounted for by this hypothesis. The same laws that we have seen were employed in forming

the earth and in developing the species are observed to operate in the origin of life. The origin of life through the creation of an active vital energy is in perfect harmony with special creation, and gives the true explanation of the law of the unity of type by which the species have been kept true to type for ages. And in order to account for the organic world it is necessary to explain the origin, not of a primordial germ cell, but how the psychical principle of each animal species came into existence.

THE SOURCE OF MAN'S ORIGIN

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"There is no prosperity, trade, art, city, or great material wealth of any kind, but, if you trace it home, you will find it rooted in a thought of some individual man."—*Emerson*.

"There are no thoughts which think themselves, no language which has existed except in the speech of the individual, no belief and no science which has shone like a universal sun above the heads of individuals, no constitution which has existed elsewhere than in consciousness, the will, the feelings of duty or fear, of the particular citizen."—*Sigwart*.

"We assert that the existence of that physical universe does suppose the pre-existence of a mind able to conceive the whole, and of a power able to embody the conception. We assert that natural habits of reasoning lead the mind, when in presence of such complex yet harmonized arrangements, to assume the pre-existence of an adequate intelligent cause. We assert that when the intellect is asked to believe in the establishment of such an order of arrangements without any foregoing thought, it is asked to do in this case what would not be asked of it in an ordinary case, except by one who meant to disregard the ordinary rules of reason. We assert, then, that the heavens do declare another glory than that of the men who aided in discovering the laws whereby their motions are ruled; declare the glory of a mind whose thoughts built the heavens when astronomers existed not—a mind of which the thought was as much higher than their thought as the heavens are higher than the earth."—*Arthur*.

THE SOURCE OF MAN'S ORIGIN

MAN stands at the head of the organic world. He occupies an undisputed place at the summit of the earth's life. He is, therefore, he became, for there can be no being without first a becoming. But how shall we account for his existence? We are informed by evolutionists that he is the result of the operations of the law of evolution. According to this hypothesis he ascended to his high position from a lower sphere, beginning his career as an anthropoid ape. But is it a reasonable supposition that such a being as man, with his perfection of form, his sensibilities, his volition, his intelligence, his reason, his thought, his self-consciousness, and all the functional organs necessary to nutrition, motion, and reproduction, could have originated by the action of purposeless forces upon atoms of matter, without the intelligence to bring these particles of matter together in such suitable relations for the purpose of exercising such mysterious powers and vital functions? It does not seem reasonable to suppose that a being so highly endowed, possessing such matchless powers both of body and mind, could be the descendant of an anthropoid ape. Let us carefully investigate the question of man's origin in the light of what we know of how other things have come into existence with which we are familiar. By reasoning from what we actually know about the origin of other

things, we may be able to ascertain how man himself originated.

A material object is always the expression of an immaterial thought. The thought must always exist before it can be given material form. Every work of art, for example, is the embodiment of an ideal. Without the idea first taking form in the mind of the artist, nothing could have been produced. The conception of the work of art in the ideal is an absolute necessity before it can be given a material form. The objective world is real, and not a mere idea of the mind. But ideas existed before realities. The artist sees his picture finished before he puts his brush to the canvas; the sculptor sees his statue completed before he puts his chisel to the marble; the architect sees his building in its final form in his mind's eye before the workmen break ground. None of the works of art we possess could have ever come into existence without having first been conceived in the mind of some man of genius.*

The work of art is but the materialization of a pre-existing thought. Back of the rare picture, the noble statue, the grand palace, there must have been a creative mind. Art means an artist. When looking upon a picture of surpassing beauty, or upon a celebrated piece of statuary, or upon some splendid cathedral, we speak, not inappropriately, of the "creative genius" that produced them. The painter, with the marvelous skill of his artist hand, transfers the picture of surpassing loveliness which he has conceived to the canvas. The sculptor creates miracles in marble as the rough block under the touch of

*The Philosophy of the Christian Religion.—Fairbairn.

his genius is chiseled into a symmetrical form by the inspiration of a lofty ideal. The workmen who erect glorious piles of stone, and brick, and marble, are but giving expression in material form in the magnificent temple to a preconceived plan wrought out in all its completeness in the mind of the architect. The work of art is a new creation.

"Creation, minted in the golden moods
Of sovereign artists."

But we do not admire the work of art as much as we do the mind and skill that produced it. The work of art implies to the beholder that there is some other mind than his own. For while it takes some genius to be able to fully appreciate the work of art, yet it takes a greater genius to produce it than it does to be able to appreciate its artistic beauty. The work of art reveals the fact that a superior mind has given expression to his thought in the production on which the beholder gazes, and expressed through it meanings that are suitable material for apprehension by the human intellect. The work of art implies two intellects, one expressing in the work of art intellectual conceptions, the other comprehending and appreciating the beauty and symmetry of the finished product and grasping the idea that is symbolized. While the ordinary man can not create these works of art himself, yet he can appreciate something of their beauty, when they have been created by the genius of the artist. When he sees the work of art, though he does not possess a mind equal to the one that produced the picture or statue, yet he at once recognizes the fact that it took a

genius to produce it. He does not imagine for a moment that it is the result of blind chance. He does not conceive the notion that the colors which are blended in the picture with such marvelous skill were floating in the air, and in some mysterious manner, without the intervention of the human will, combined themselves in the finished picture. It is not true that all we know of a phenomenon is the phenomenon itself. If we know the work of art is the product of one author, we can form a good estimate of the skill of the artist, and learn much of what his thought and purpose was in producing the work of art.

A thing that can be perceived only by intelligence, could have originated only through the exercise of similar intelligence. It takes intelligence and something of artistic taste to appreciate a work of art, and hence it must have taken an artist to produce it. It takes a personal intellect to comprehend the work of art, and for this reason we know that it must have taken a personal intellect to produce it. As we fix our gaze on a rare picture, two things become apparent to any sane man, if it takes a mind to comprehend it, it must of necessity have taken a mind to have conceived it and given it its material form. The work of art therefore necessitates an artist to create it as well as a mind to comprehend it. And while we may learn much of the artist from the product of his brush, yet it is not possible to obtain a complete knowledge of him by the works he produces. The painter is not able to express all he sees in his finished picture, the sculptor can not fully present his ideal form in the marble, and the architect is unable to give the fullest expression to his thought in building materials. The thought of the mind is greater than the product of the

hands. And the man himself is greater than the thought he conceives. The artist lives independent of his work of art. He conceived it as an ideal before he gave it material form. And he himself existed before he conceived the thought to which he gave expression on the canvas, or in the marble.

Man has the power to create things that have no existence, and that never had any existence. But he must construct these ideals of the mind from existing materials. He has no power to project them from his ideal world, and give them material form. He is forced to take the materials at hand, and form out of these what he conceives in the ideal. The artist creates his picture, but not without first having received suggestions from nature, or from the works of the old masters. And it would be impossible for him to create the ideal forms he represents in his masterpiece, had he not received these suggestions. The artist, no matter how great his genius, has no power to create in the absolute sense. But within his limitations he can create that which never had any existence until he gave it material form. Art means creation, a mind and hand behind the work of art admired by us. And it is the mind and skill that created this rare work we admire, and not merely the thing in itself.

Ideas are the result of thought, and it is the essential nature of the mind to think. The man of genius receives a suggestion from some source, and this starts a train of thought in his mind, which results in a brilliant idea, and the picture, statue, or cathedral, is the materialization of that thought. We visit St. Peter's when at Rome, and, as we admire this magnificent building, we remember

that Angelo was the architect who designed it. In the Sistine Chapel we gaze upon the matchless figures in the picture of the last judgment, and the thought is suggested to our minds that Angelo painted these matchless forms. And when we stand before the statue of Moses with its strength and perfection of form, the thought comes unbidden to our mind that Angelo was the sculptor who fashioned this form. We recognize the fact that there could be no cathedral, no painting, no statue, without there having been an intelligent being to conceive them and give them their present material form. It was a skilled hand that fashioned these works of art, but back of the hand was the mind that directed the hand in its work. And we pay no less tribute to the genius that produced these works of surpassing value because he may have been aided by the study of nature, or from the contemplation of the works of the old masters. And in every work of art executed by the skill and genius of the artist, and appealing to the senses of the persons who look upon it, the personality of the creator addresses itself to the personality of those who behold it.

I.

We may be able to learn something of the mysteries of the works of creation from these reflections on the works of art. What is true of the cathedral, the picture, and the statue, is also true of the material universe, the species, and man. If it takes a personal intellect to create from existing materials a work of art, is it not a reasonable supposition that the universe with its varied

forms of life, with the intelligent being, man, with its marvelous adaptability, with its exact laws, with its matchless beauty, with its unspeakable grandeur, and with its manifest design, was created by a personal intelligence? As we look on this sublime work of art we call the universe, with its various species, and its races of men, we are forced to the conclusion that back of the universe there was a personal intelligent Creator; back of the earth's life, pre-existing life; and back of man a spiritual Being who brought him into existence.

This is not merely a question of the origin of the materials from which the earth and its life have been constructed, but the creation of the universe and the species from existing materials. It is not necessary in this discussion to consider the origin of matter. It does not concern us whether the earth was formed *de novo* from non-existing materials, or from existing materials. Matter is composed of atoms no larger in diameter than the millionth part of an inch. The entity of matter is not found in the compound nor in the organic body, for these may readily change, but in the changeless atomic unit. But matter as an atom can not be seen by the aid of the most powerful microscope in existence. We are only able to distinguish matter as it exists in the compound, or in the organic body, just as we are able to recognize life as it exists in the living form. We know fully as much of the ultimate substance of life and spirit as we do of matter. We recognize their existence as they manifest themselves to us in combinations. Atoms, life, and spirit, as entities, exist alike as forms of thought. We are compelled to look beyond the atoms of matter for the cause that has brought them into their present

combinations in material compounds and organic bodies. Matter therefore as an entity has no advantage over life and spirit. We know matter exists because we see it in its compounds, and we know that life exists because we see its manifestations. It is not necessary in this discussion for us to spend any time in the consideration of the origin of matter. We merely mention it to show that the materialist is on no firmer ground than his opponents, and that he knows no more of matter as an entity, than he does of life and spirit.

We gaze about us upon the numerous animal species with their great variety of forms, upon man with his perfection of form, and upon the earth itself with its rivers, lakes, oceans, plains, valleys, hills, and mountains, and recognize the fact that they bear evidence of material form having been given them. They show evidence of thought—of thought given a material form. The material universe, the species, and man, point to an all-wise, omnipotent Creator. It takes a mind to comprehend and appreciate the works of nature, and it must therefore have taken a mind to conceive them and to have brought them into existence. The universe means a Creator. There is certainly nothing unphilosophical in ascribing the works of nature to an infinite Creator, when we ascribe the works of art to finite human faculties. If we attribute the works of art to men, we must attribute the works of nature to God. They show unmistakable evidence of being the products of similar powers, the one being finite and imperfect, the other being infinite and perfect. If we must account for the palace, the picture, and the statue by saying that they are the special creations of men, then it follows as an unavoidable con-

clusion, from a parity of reasoning, that the universe, the species, and man, must be the special creations of Almighty God.

It is a well-known fact that physical cause is a definite quantity, and hence it can only produce a definite and uniform result. If evolution is a physical cause, it must produce a definite and uniform result. In the geological history of the earth there have been produced countless millions of distinct species. The results that have been produced in nature have been varying continuously, and have been of constantly increasing complexity. And all these varying results and complex forms have revealed the fact that there was being wrought out in nature some well-defined purpose. The force that has produced these complex forms and varying results has operated as no material force has ever been observed to act. But evolutionists contend that all the phenomena of nature can be accounted for by physical causes. They contend that there is no need of purposive cause, or a guiding mind. But we can not believe that such varying results can be produced except by the determining will and the guiding mind of an Allwise Creator. We can not believe that absolute and unmitigated change is the cause of perfect order.

The earth has reached its present high state of development by passing through vast revolutionary changes. The species have appeared suddenly in countless numbers and increasing complexity of form at the beginning of the great geological eras. And, judging from his fossil remains, man himself appeared upon the earth at a definite time in the full perfection of his powers. How shall we account for the introduction of the species by

sudden impulses, following wide-spread extermination as the earth was submerged beneath the seas and was again lifted by a mighty upheaval of its crust, unless we admit that there is a First Cause to give the needed impulse—to impart the necessary energy—at the proper time? We have spoken of these revolutionary changes as if they might all be accounted for by natural causes, but back of these secondary causes, there must be a supreme First Cause. There must be a source of energy somewhere in order to account for the energy that has been expended in nature. All the powers operating in nature could not have been evolved from the single potency of gravitation in a nebulous globe. Out of some higher realm must have come gravitation, cohesion, and chemical affinity, for they could not have originated themselves. These forces must become exhausted in time unless there is some source of inexhaustible supply from which to draw, for these forces are not sufficient for their own continuance. The explanation of all these revolutionary changes in nature, by which the earth reached its present form and the species were developed, is not to be found in natural causes, but in the supernatural. Back of every advance step taken in perfecting the inorganic and organic world stands the infinite God, who spake, and it was done; who commanded, and it stood fast.

The material universe with its varied forms of life does not fully express the infinite God who made them. They give but slight evidence of his omnipotent power. The ordinary man is not able to see all the beauty in a work of art, and the same is true even of the most gifted man in regard to the works of nature. As man beholds the works of nature he is able to recognize something of

their beauty and grandeur. And as it takes an intelligent being to comprehend and appreciate them, we know it must have taken a superior intelligence to produce them. We can conceive the Creator back of the works of creation, though we may not be able to fully comprehend the works of his hand. But our inability to comprehend how the universe was formed does not invalidate the argument. Man appreciates the beauties of the natural world, he recognizes the adaptability in the works of nature, and must attribute them to a mind that was able to conceive them in thought, with a skill and power to give them material form. The beautiful pictures that are hung for us in nature's gallery with their exquisite colorings and perfection of form, cause us to think of the divine artist—the infinite God—who made them. And as long as the cosmic order continues, the evidence of a personal Creator can not be set aside. The works of nature with their marvelous beauty, adaptability, and usefulness, constantly remind us of him,

“Who stoops to paint the insect's wing,
And wheels his throne on the rolling worlds.”

Creation by the omnipotent God is said to be unthinkable, but, in reality, it is the only possible explanation of the universe. The existence of a personal Creator makes all speculation unnecessary, and furnishes a satisfactory explanation of all things. If there is a living personal God, we can account for the inorganic and the organic world. Inasmuch as it requires a personality to comprehend them, it must have required a personality to conceive them—a personality to create them. A personality

is an absolute necessity. We can not comprehend anything without a personality. And if it requires a personality to comprehend the works of nature, it must have taken a personality to produce them. A divine personality must have given existence to the universe. The time was when the living God conceived the idea of the universe. And all existing things, the earth, the species, and man, are the materialization of the thought that existed in the divine mind.

There is no consistency in men who dig up a rude flint instrument out of a bed of gravel, and immediately infer it was made by an intelligent workman, but who refuse to see any evidence of a higher power in the workman himself. If it took some intelligence and skill to chip these rude flint implements into their present form, it must have taken greater intelligence and skill to fashion the man who made the implements, as the man is greater than the chipped flint. If these rudely-shaped flints required the hand of man to shape them, man, the masterpiece of highest workmanship, must have required an infinite Creator. Unconscious purpose can not be conceived. Purpose implies a mind to conceive and a will to execute. Which is the more reasonable, nature the outgrowth of intelligence, or intelligence the outgrowth of nature? The material universe with its perfect forms, remarkable adaptability, and far-reaching laws, can not be the work of blind chance. Blind forces do not originate power and intelligence.

It is obvious to the most casual observer that things and events are connected with other things and events in certain ways. And from our observations we have come to believe that all events are bound together in a certain

order of law. Is the cause that produces the changes we observe that take place in nature, in the movements themselves, or is it separate and distinct from them? Is the causation internal to the process of development in nature, or is the process merely the successive manifestation of a cause, external to itself? Evolutionists identify the process with the cause, and make the process the cause of the existing order. But is it not a fact, that the cause is above and external to the process? A process is not a cause, but an effect that must have a cause, not itself. The reasoning powers of man that have been developed by constantly observing cause and effect—creative power and created product—demand a First Cause as the sole explanation of the material universe.

The reasoning powers of man are utterly incapable of the conception that the universe was without an origin, or that it brought itself into existence by a process of development. Did the universe have an origin? The origin of the universe is conceded by all classes of evolutionists. But if it had an origin, it must have been brought into existence by a cause capable of giving it existence with all its various forms of life. The inorganic world abounds in order as well as the organic, and the source of this order must be one conscious will. It is absurd to suppose that a mechanical cause, or a "fortuitous concourse of atoms," could account for the order and adaptability in the organic and inorganic world. There must be creative power and intelligence to account for this exact order and perfect adaptability we observe in nature. The will of God is the creative energy of the universe, being uniform and permanent in quality, but expressing itself in an infinite variety of ways. But the

will of God that supplies the creative energy is not a part of the universe. The supernatural denotes cause outside of and above nature. We can no more identify God with the process by which the universe has been brought into existence than we can identify the artist with his paint, brush, and canvas. The universe was caused not by the "reign of law," but by the reign of God through law.

"Back of the loaf is the snowy flour,
And back of the flour, the mill;
And back of the mill are the wheat and the shower,
And the sun and the Father's will."

There is evidence of design seen in every part of the organic world. Seen in the humblest insect that flies in the air and the most gigantic beast that treads the earth; seen in the meanest plant that runs upon the ground, and in the monarch of the forest that lifts its branches into the clouds; seen in the forces which govern the atoms that float in the atmosphere and the laws that control the planets as they revolve in their orbits. Creation shows a marvelous adaptability to purpose. That the universe could have originated itself can not be believed for a moment by an unbiased mind. This is an orderly world in which we live. This order addresses itself to us as intelligent beings who are able to comprehend nature. And if it requires a mind to comprehend it, it must have required a mind to produce it. In all our remodifications of nature, the cause is a conscious will. And if this is true of man's creations, why is it not also true of the existing order? Why not a conscious will back of nature? The teleological argument appeals to the better judgment

of man, and to the unbiased mind it is conclusive. Rude flint implements found in old gravel beds, pictures of animals traced on ancient caves, hieroglyphics carved on ruined walls, are at once admitted, even by materialists, to be the work of intelligence. And when we see in nature, symmetry, order, and adaptability, is it not reasonable to conclude that the works of nature are also the result of intelligence? The argument from design satisfies the reason. It accounts satisfactorily for both the inorganic and the organic world.

When the materialistic evolutionist is pressed to explain the origin of the universe, he answers that its origin is an "insoluble mystery." But the universe must have a correlative and complement in the unseen. It is an absolute necessity, made so by the law of the conservation of energy. The visible can be explained only by reference to the invisible. The science of geology has demonstrated a beginning for the universe in time. And the changes that are going on constantly about us indicate that it will have an end. There are dead and dying worlds in the heavens above us. And it is only a question of time, until all the worlds that make up our solar system are dead. And these worlds will then be resolved into their original elements. These facts necessitate an unseen power, an invisible universe, out of which the visible universe must have originated, and to which its energy is constantly returning. Unless it is admitted that the universe originated in an intelligent unseen power outside of itself, one of two conclusions is inevitable, either there is no material universe, and there is nothing but mind and ideas, or the universe is eternal. As long as we retain our common sense, we can never accept the

idealistic philosophy. And that the universe is not self-existent, and therefore not eternal, everything goes to prove. The conclusion is forced upon us that the universe had its origin in an unseen power outside of itself. The universe came into existence by the successive acts of a creative will. It is impossible for us to comprehend power without a guiding mind, power without a determining will, power that acts without volition. It is impossible for the human mind to comprehend unconscious purpose. Purpose implies intelligence to form it, and will and power to execute it. And it is far more reasonable, to the ordinary mind, to regard the visible universe as the outcome of intelligence, rather than intelligence the outcome of material atoms.

Every effect implies an adequate cause. And every combination of means in order to attain a definite end implies intelligence. In order to escape the doctrine of design, the universe must be referred to necessity, or to chance, both of which are contrary to sound reason. Suppose a man who is unfamiliar with modern improvements should inquire as to the source of that electric light suspended yonder above the street. He is informed by the person of whom he makes the inquiry that the light comes from the electric light plant. The man goes to the power house and asks the electrician the source of the light, and is told that the dynamo generates the electricity which produces the light. But he does not take this as a final answer, and asks where the dynamo obtains the energy it converts into electricity. He is told that this energy comes from the steam generated by the boiler in the engine-room. He then interrogates the engineer as to the source of the steam, and receives the in-

formation that it is generated from the coal that is being used in the furnace. He consults the geologist as to how the coal obtained its heat, and is told that the coal is the stored-up sunshine contained in the vegetation of past ages of which the coal was formed. The man learns that the electric light shining above the street yonder owes its light to the great source of light, the central sun. For the origin of the universe, there is required a great First Cause, whose supreme will is the ground and source of the working force of nature. The conservation of energy demands that there be an infinite source of all energy. When we trace the forces operating in producing natural phenomena back to their original source, we trace them back to Almighty God, the great center of the universe.

Even on the principle of evolution, no lower power could have produced the universe than the mind that has been evolved from it. If it were otherwise, there would be evolved from the universe that which was not involved in it. And the evolution can never be greater than the involution. Suppose, even, that thought proceeded from a certain configuration and arrangement of the brain. Who contrived these nice combinations of matter so that they formed a thinking machine? Does not a complicated, intricate machine like the brain imply an inventor? All other machines have back of them an inventive mind, and why not a thinking machine also? The finite mind demands an infinite mind. The creative power that produced the human mind must have been as much greater and more intelligent as the universe excels the inventions of men—as the mind excels the machine it invents.

In order that there be a creation, there must be a pri-

mary self-existent spirit whose will is supreme. There must have been back of and above matter an eternal energy that acted upon its atoms and produced the inorganic and organic world. But what guided and controlled this energy? There must have been back of this energy a guiding will to control it and direct its operations in the formation of the universe. That eternal energy is the Almighty, that guiding will is the infinite God. From Almighty God, a universe of matter. Matter, the product of mind. The material form, the outgrowth of the immaterial spirit. If man is only a compound of matter, how is it that this matter that did not think yesterday, thinks to-day? Who has given matter that which it did not formerly possess? If the spirit and the body are two distinct substances, who combined them in such exact and mutual relations? Matter can not assume a definite form without the aid of spirit. Matter can not think. It can not act for itself. Inertia is a property of matter. Matter can not start motion, nor can it stop it, when it has been started. If there is nothing in the universe but matter, what caused matter to perform the miraculous work of producing the inorganic and the organic world? Nature, as we look upon her present forms, gives evidence of being the result of thought—thought given a definite form. If the work of art is not the result of a “fortuitous concourse of atoms,” but means an artist who first conceived, then executed it, the works of nature must mean an infinite Creator that caused them to exist, and they can not be the result of mechanical forces. What is more reasonable than that the immanent God should give existence to the universe?

The theory of special creation is infinitely more rational than the hypothesis of evolution. It avoids the absurdity of making endless change the cause of perfect order. It provides in the will of God the only source of power known to man in the ordinary experiences of life. It makes the "promise and potency" of all things reside, not in the diffused atoms of a vaporous globe of fire mist, but in the will of an infinite Creator. Evolutionists content themselves altogether with the material universe, and entirely ignore the power of the unseen and spiritual. We find in the unseen and spiritual the cause of all changes that take place in the realm of life. It is the personality behind the work or deed that gives it force. History is but a record of the changes of personalities. Great personalities have stamped themselves on the age in which they lived. Great personalities have brought about changes, political, social, and religious. And the supreme personality, the living personal God, is the sole producing cause in nature. He called the universe into existence, and has carried on the works of creation from the beginning until the present time. We explain the order of the universe by the assumption of a personal God. "In the beginning God created the heavens and the earth."

If there is an infinite and eternal energy from which all things proceed, that energy must be the essential and determining factor of everything in the universe. And it is irrational to contend that this energy is unknown and unknowable. We know of the existence of a force only as we observe the manifestations of its power. And the moment we witness the manifestation of that force, that instant it becomes known. God may in a sense be

unknown to the materialist, in that he is unable to comprehend him, but he is not unknown for all about him are seen the manifestations of divine power. "The heavens declare the glory of God, and the firmament showeth his handiwork." When Spencer admits that there is an eternal energy back of the present order, he admits the existence of such a being as God is conceived to be, though he does not know him in the sense of comprehending him. But he does know him in the sense of recognizing his handiwork in nature, even if he does fail to recognize God back of this eternal energy as the true source of natural phenomena.

But grant that to the philosopher God is unknown and unknowable, and the fact does not militate against his actual existence. For thousands of years men walked the earth and knew nothing of the existence of the law of gravitation. The fact that men were ignorant of its existence and power was no proof that it did not exist and that its power was not felt in the universe in that age. The ordinary man does not comprehend the genius of the artist who painted the picture he so greatly admires, but he appreciates its beauty, and knows that the artist lived and wrought by the masterpiece he left behind him. It is not necessary for him to comprehend the genius of the old master, nor for him to understand the details of the work by which the picture was produced. The masterpiece speaks for its author, and he measures his genius by the product of his skill. But doubtless there are men who can see no beauty whatever in the works of the masters. They look upon their masterpieces without being able to see any evidence of genius. They have no appreciation of art, but this is no evidence that there

is no beauty in the picture. It does not prove that the artist was not a genius, because some men fail to recognize the fact. It is folly to hold that a thing can not be because we are not able to comprehend it. Men can never reach a position where they can decide with infallibility what can and can not be. And no man has the right to speak for the rest of mankind as to whether God can be known, or whether he is unknowable. What may be unknown to the philosopher, may be known to some man much less highly endowed. The vision of the philosopher may be obscured by his philosophy, while the humbler man sees with an unimpaired vision.

The human mind, as it considers the origin of the universe must reach the conception of an infinite God, who is the Creator of all things. And the mind is forced to reject the theory that assumes that the earth with its varied forms of life was evolved out of primordial matter, which was operated upon by certain fixed laws without any special interposition of creative power. The mind grasps the fact that the all-important determining factor in the universe is an omniscient, omnipotent, personal God. The living, personal God is the necessary center of the rational universe. Matter has no real efficiency in itself. Efficiency is only to be found in mind. The changes that have taken place in nature were caused by mind back of nature and outside of physical changes. The infinite mind first conceived the present order, and then gave it an existence. The ultimate cause and source of all things is God. Logically, we are compelled to assume either the eternal existence of the universe, or that of the Creator. In the presence of all the facts that have been adduced, the account given of creation by Moses in

the Book of Genesis, is not only probable, but in the highest degree reasonable. It accounts better for all the phenomena of nature, than the hypothesis of evolution. Where philosophy utterly fails us, revelation meets us with an account of creation which is adequate and reasonable; and the more carefully it is studied, the more rational it appears and the more irrefutable does it prove to be. That the universe came into existence by special creation is vastly more probable than the assumption that it is the product of infinitesimal changes wrought by the processes of evolution during untold millions of years.

II.

It must be admitted that man not being self-existent, therefore eternal, must have been brought into existence in some manner. But man could not have come upon the earth by any of the processes of evolution. There is in man a spiritual element in which the lower animals do not share, a nature that partakes of the infinite and divine. Man was not developed from an ape; he must have had a higher origin. And the hypothesis of supernaturalism is the only reasonable theory for his origin. For the origin of man we can find no adequate cause except in the unseen universe. Without the aid of the spiritual, the material can neither begin to be, nor continue to exist. It is the spiritual principle that causes nature to take on its various forms, just as it is the psychical principle that causes the animal to come into existence. In a larger way the spirit has given form to nature, producing the universe with its laws and adaptability. Matter

can not be completely divorced from spirit. Nature is what it is, not because it has been constructed by forces and energies, but by thought, which has arranged it and articulated it into a coherent and rational form. The only concrete term that can convey to us the creative mind, is God. And the real creation of God is spirit. Matter has no independent being. But spirit exists independent of matter. Matter is a mere abstraction until mind has made it concrete by investing it with qualities and imparted form to it. The seen can be explained only by the unseen.

For the origin of man, gifted with reason, possessing the power of volition, and endowed with creative genius, there was required a creative act of a being above nature, whose supreme will is not only the source of natural law, but the working force of nature itself. Living animals, in the very nature of organic formations, can not come into being from inorganic matter without the aid of a creative power capable of forming such structures and possessing the requisite power to transfer to such organisms the vital energy necessary to make them living, active beings. For each distinct species there was created a psychical agent capable of taking the material elements and fashioning them into an individual animal with distinct parts and separate organs after a pattern which it slavishly follows. And the only way to account for this psychical entity, with the power to form an animal with parts adapted to definite ends and to perform important functions, is in the assumption that it originated by the creative act of an infinite Creator.

The origin of man can not be accounted for by the hypothesis of evolution. The hypothesis of special crea-

tion is the only reasonable theory for his origin. The formation of such a being as man, with his matchless powers of body and mind, could not have taken place without prior life, thought, and purpose. If the immortal creations of the chisel require a sculptor, does not the human form divine require a Creator? The idea of man's being the product of the evolutionary process, without a guiding, creative, definite purpose, is irrational. Man must have been produced by the direct creative fiat. The "promise and potency" of life resides in the will of the Creator. When in his infinite wisdom he conceived the purpose of creating man, he had but to speak, and it was done; to command, and it stood fast. It is no greater tax on the divine power to create all the species, than it is to create a single form of the lowest type. The power that can create life in a low form can create all life. Why should we picture the infinite God as a passive spectator of the operations of certain fixed laws, which he had imposed on nature? Admitting the existence of God, as we must, what reason have we to suppose that he would evolve man out of the lower animals, when he could speak him into existence at once? It would seem that speaking him into existence would be more in harmony with our conceptions of the acts of a divine Sovereign, than to let nature evolve him out of the lower animals.

Man is not an animal, he is a man. He belongs to a higher order of beings, and can not be classed with the animal species. Man, it is true, has a material body, but the body is no more a part of the real man, than the house in which he lives is a part of him. Man, as the crowning work of creation, stands alone, and refuses to be classified with the brute creation. His place in nature is fixed, not

arbitrarily, but by virtue of his surpassing endowments of mental and spiritual power. Man is what he is because the spirit that animates him differs in essence and power from the vital principle that animates all the other beings that dwell on the earth. In personality we find the powers that distinguish man from all other earthly creatures. It is personality that constitutes him a true individual, personal self. Personality is the fundamental fact, the source of all perception, the basis of all thought. Personality is a fixed point in a world of change. Personality is the groundwork of all knowledge. If man is not a personality, there is no possibility of any kind of knowledge. The universe is reduced to a blank. But all human observations imply an ego. Man knows the ego that thinks and wills and feels is himself, and he recognizes the fact that every other man possesses a similar selfhood. The self as a unit stands apart from the body and thinks. Thinks about its own body, other beings like itself, and the material universe. Consciousness of self-existence is the first and basal act of mind.

"The baby new to earth and sky,
What time his tender palm is pressed
Against the circle of the breast,
Has never thought that 'this is I.'

But as he grows he gathers much,
And learns the muse of 'I' and 'me,'
And finds 'I am not what I see,
And other than the things I touch.'

So rounds he to a separate mind
From whence clear memory may begin,
As through the frame that binds him in
His isolation grows defined."

The body is an objective organism controlled by the ego. The body is a material thing made up of matter; the ego is an immaterial thing made up of spiritual elements. The psychical principle is the tie that binds the unconscious instrument and the conscious self together. The body is one thing, and has its limitations, the ego is something entirely different. The demand for a visible self without a body is to assume that the ego is a mass of matter, for only such is capable of coming into the range of vision. The entity of matter is so small that it can not be seen any more than the personal entity. The body is the servant of the ego in the same way that the organs of the body are the servants of the body. And man a personality demands a personal God to give him being.

Man, a personality, can not be evolved from that which is without personality. If man, the highest product of evolution, is the effect of that which is destitute of mind and consciousness, the effect is greater than the cause that produced it. There is contained in the effect that which was not in the cause. Man is vested with a personality by that which possesses no personality. Non-living matter produces living matter. An unconscious process evolves from dead matter a living, feeling, thinking, willing being. This is unthinkable, hence, can not be true. If man is more than an animal—a spiritual being—he must have been brought into existence by a spiritual being. Matter can not produce spirit. It must produce its kind—matter. Materialists are consistent, when they deny to man a spiritual nature, and evolve him from matter with all his higher faculties. But unless

there is a real man—a spiritual entity independent of the physical man—there is no God. If the whole of man is evolved from material atoms, the power back of evolution can not be a personal God. If man is evolved from matter, there is no God. There is absolutely no room for half-way measures. Either the doctrines of materialists are true, or the theory of special creation. Admit that man is a personal, spiritual being, and you must concede a personal God to account for him. Destroy man's spiritual nature, and you destroy God. There is no personal God unless man is a person. Obliterate the personality of man, and you at once destroy the personality of God. Admit the personality of man, and you must have a personal God to account for his existence.

But man is a personality. He dwells in a body, but is distinct from his body. He clearly recognizes this fact, and constantly speaks of his body as a thing apart from himself. He says my hand, my foot, my head, my heart, my brain, my mind, my thought, my idea, my plan, my purpose. He does not speak and act as if he were acted upon by some irresistible power outside of himself. He does not conduct himself as if there were within him forces that were compelling him to do as he does, regardless of his personal choice. He is free to choose for himself, and is conscious of the fact. Man is pre-eminently free, exerts the superior powers with which he is endowed, and exercises dominion over nature. Man has subdued the earth, conquered the forces of nature, made her laws to serve him, and wrought all the grandeurs of history. Does headship and dominion extend no farther than this earth? Is the universe beyond without a head?

If man is the highest being in the ascending order of intelligent beings, why is it that he has stopped in his development so far short of perfection? Man, the real man, is not and can not be the product of evolution. Man is a spiritual being, and as such must be the offspring of a spiritual being. In self-consciousness man has that which no cosmic process can produce. Man is not and can not be the result of any cosmic process. Man, the spiritual being, is not the offspring of nature. The real man, the essential principle, is not the result of untold millions of years of development, but he is the result of a special creative act.

All animal life on earth to-day owes its existence to parents. And man is no exception to this rule. Imagine your ancestors, seated, rank above rank, in some vast diamond-shaped coliseum. Your immediate parents sit nearest you, making up the first line, above them your grandparents, above them your great-grandparents, and above them your great-great-grandparents. The ranks lengthen as they recede from you, until the greatest breadth of the diamond is reached, and then gradually narrow until there sits in the last seat at the highest point, a single pair, the first parents. But there were no parents for these first parents. From whence did they come? The first parents came from the fashioning hand of God. We have seen that in the origin of an individual life that there is a creative act, as it were, when the maternal germ cell and the paternal germ cell unite in the production of a new psychical principle, which takes the materials at hand and builds for itself a body after the type of life to which it belongs. And the first parents were

brought into existence by the creative act of the living God, who made them living souls. Man was not brought into existence from the earth, though these elements enter into his bodily structure, but as a living spirit he was created by a pre-existing spiritual being, the infinite God. Man, in his body, is of the earth; in his vital nature, he is of animal life; but in his spirit, he is of God. There is in man a spiritual nature analogous to the divine, united to a corporal frame constructed on the same general type of the higher animals. But the real man, the spiritual element that dwells in the body, is neither the product of evolution, nor is it subject to it. Evolution can have nothing to do with the world of spirit, which is above the world of sight and sense. In every man there is an eternal reality that did not arise out of endless change, and can not be destroyed through change. The spirit of man is a special creation, placed in union with a mortal body for a temporal purpose. And instead of man's being evolved out of the lower animals, and his higher faculties being developed from the instincts common to animals, he was without life until his soul and spirit came from God. Man is a spiritual being created for a separate existence from matter, but united for a time with a material body. God is the Father of our spirits. The Almighty created the psychical entity in the first man that has given rise to the human race by a process of multiplication.

III.

If man is a special creation, he appeared in the world at a definite time, perfect and entire, possessing all the characteristics of the now living man. If the declaration of the inspired word is true, "I have made the earth, and placed man upon it;" we can trace the ancestry of man back not only to the cardinal head of the race, but still further back to its true source. The Jews traced their race back in a direct line to the patriarch Noah. And, beginning with father Noah, we can trace our ancestry, with theirs, back to the progenitor of the race. "Noah, who was the son of Lamech, who was the son of Methuselah, who was the son of Enoch, who was the son of Jared, who was the son of Malleel, who was the son of Cainan, who was the son of Enos, who was the son of Seth, who was the son of Adam, who was the son of God." Man is the offspring of God. And humanity will agree with the sacred Scriptures that: "There is a spirit in man, and the inspiration of the Almighty giveth him understanding."

The Almighty took plastic clay, and molded it into the form of man. God breathed into this lifeless form the breath of lives—the animal life and the spiritual life—and man became a living soul. Here was non-living matter becoming living matter. This was done by a creative act. Man was created by the hand of God, and given a body, soul, and spirit. Man is the last act of creation, the highest and noblest work of his Almighty

Maker. His body was formed from the dust of the ground. It was formed of common matter like the rest of animated nature. His soul was not unlike that of the highest type of the animal species. But his spirit was immortal, that which no animal possesses. The body of man, as it lay prone upon the ground, was symmetrical in form, divinely fair in appearance, but it was lifeless. The Almighty stooped and breathed into this lifeless body the breath of lives, and by his spirit infused a spirit endowed with immortality. Here was a new order of being, an immortal spirit inhabiting a mortal body.

The construction of man's body out of the dust of the ground would seem to indicate that his physical organism was formed of elementary matter without any previous preparation in organic forms. The non-living matter in man's body became living matter, but the non-living matter became living matter by the touch of a living being. A non-existent being becomes a living soul. Man is not an orphan in the universe, but the child of the living God. The real man is the inspiration of the Almighty. The Everlasting God is his father. It is true, that in his physical structure he is the child of his mother, the earth, but in his spiritual nature he is the child of his spiritual father, the infinite God. A high rational and spiritual nature was conferred upon man by the in-breathing of the Almighty. His spirit is distinct from the mere animal life. Man was the head of life on earth, the crowning triumph of creation, the wonder and glory of the universe. Man proceeded from God and partakes of the immortal nature of his divine Father. He came into existence suddenly in the full perfection of his

powers, as Minerva sprang full-grown from the brain of Jove.

The first man rose from the dust of the earth and stood amidst the luminous loveliness of Paradise with the breath of the divine dilating his nostrils, and the image of the eternal upon him. Man crowns the long series of animal creations, the highest order of being that had ever walked the earth. He is a new order of being, with new equipment, having dominion over the lower order of beings. He stands alone, above all the works of creation, giving them names according to their several natures. Last of all man appears in the image of his Almighty Maker. He had the physical powers of a perfect man, without defect and deformity. The sublime things of earth are seen now only by the man of genius, but the first man saw them face to face. The world is divine now only to the gifted, but it was divine then to whomsoever looked upon it. Man stood bare before it all. He saw and understood without teachers, for to him knowledge was intuitive. All his powers were in delicate balance. He had the physical powers of a perfect man. His body was fashioned by the skilled hand of God, with its hidden susceptibilities, wonderful combinations, exact mechanisms, and exquisite relations. In face and form, he was an ideal of grace and majesty, with strength, agility, beauty, firmness, and flexibility. He was kingly in his bearing, with majestic beauty, with matchless symmetry, and perfect mechanism of form. Man was beyond measure superior to the strongest, kingliest beast that walked the earth.*

*The Eternal Building.—Lemmon.

"The loveliest pair
That ever yet in love's embrace met.
Adam the goodliest man of men since born
His sons: the fairest of her daughters, Eve."

Man has a noble figure, fashioned by the divine hand, with mental powers capable of grasping and solving the problems of earth, and a spiritual nature fitted to commune with God face to face. Human reason was modeled after the infinite divine reason. The finite man images the infinite Creator. As the dew drop images the rising sun, so man images his divine Maker. He has in his limited degree, the same reason, the same power of volition, and the same self-consciousness. He is the same in kind, however different in measure, his power may be. He was made a little lower than God. He partakes of the infinite and divine. He was created in the shadow and similitude of God. In man a spiritual nature analogous to the divine is united with a corporal body. He does not act automatically, but from free choice, unfettered by organic necessity. He is not pushed from behind by dead and forgotten ancestors, but is drawn from above by the unseen. Man is a spiritual being with a personality like unto the personality of the divine being in whom he lives, moves, and has his being. Man ranks not with the lower order of beings like the apes, but with higher personalities like the angels and God. He is identified with the earth through his body, and is thus a part of the visible order of things, but his real self is supernatural, and is consequently infinitely above the visible order. Man can not be explained in terms of matter, force, and motion, for he originates force, controls mat-

ter, and directs motion. Man is allied to God. In his body he is of the earth, but in his spirit he is the offspring of God. Man's intellectual powers capable of the highest development and his spiritual nature capable of communion with his Maker, lift him above the creatures of earth and make him akin to celestial beings.

"Our birth is but a sleep and a forgetting:
The soul that rises with us, our life's Star,
Hath had elsewhere its setting,
And cometh from afar:
Not in entire forgetfulness,
And not in utter nakedness,
But trailing clouds of glory, do we come
From God, who is our home."

IV.

The essential teachings of the two theories that undertake to account for the origin of man have been placed before the reader. According to the hypothesis of evolution, man was evolved from a single germ cell by gradual and infinitesimal changes through all the lower forms of life until he reached his place at the head of the earth's life. But according to the theory of special creation he was created *de novo* by Almighty God. The claims of evolutionists have been briefly stated, and the objections to their arguments have been set forth. It has been shown that the new philosophy is inimical to man's highest hopes and derogatory to the character of God. The proofs by which it is attempted to substantiate the development theory have been concisely stated, and their weakness and insufficiency noted. And the numerous

facts that are diametrically opposed to the theory have been pointed out to the reader. The evidence that is employed to establish special creation has been carefully set forth. That there is a law of evolution is admitted, and what is true in the theory of development is freely acknowledged. But it has been shown that there is another and equally important law operating in nature. This is the law of revolution, and it accounts for the origin of things. It has been shown that the formation of the earth, the development of the species, the advent of man, and the origin of life itself were all in harmony with this law. It has also been shown that reason demands that there shall be back of the earth, the species, and man, a supreme First Cause in order to satisfactorily account for their existence.

When the evidence for and against these theories is carefully weighed, which hypothesis seems to be a probable truth, because it has a preponderance of evidence in its favor? It is admitted that we can not prove any hypothesis with absolute certainty. But which of these theories has in its favor the preponderance of proof that renders it a moral certainty? Have evolutionists established the fact that their theory is the true cause of all natural phenomena? Have they been able to show that beyond a reasonable doubt evolution is competent to produce these phenomena? Have they been able to establish the fact that no other cause is competent to produce them? Have they proved that evolution is the true cause of the progress that has taken place in nature? If they have established these facts, the preponderance of evidence is with this hypothesis, and we must accept the theory of evolution as a proved result of science, regard-

less of its far-reaching results and its destruction of the highest hopes and beliefs of humanity.

Have we succeeded in establishing the fact that an infinite Creator is the true cause of all natural phenomena? Is there a shadow of doubt in the mind of the reader that Almighty God could give existence by divine fiat to the phenomena of nature? Has it been demonstrated that no cause except a divine First Cause is competent to produce the earth, the species, and man? If these facts have been established, the preponderance of evidence is with the theory of special creation, and this hypothesis must be accepted as substantiated. We believe that the reader who has followed this discussion is competent to weigh the evidence that has been set forth, and is capable of estimating the value of the arguments that have been adduced. We leave the reader, therefore, to judge for himself whether there has been a case made out against the hypothesis of evolution and in favor of the theory of special creation.

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Pool, George Walter, 1860-

The origins of man; or,
Evolution or revolution--
which?

